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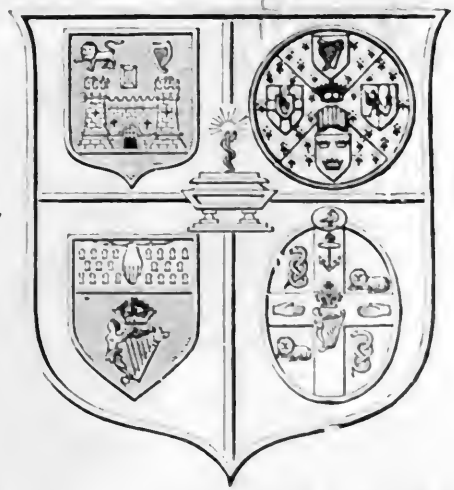
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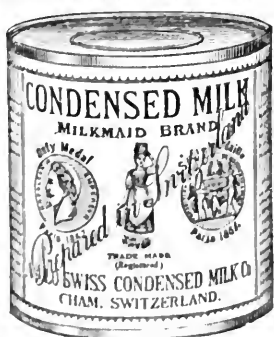
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MEDICAL SCIENCE.

CONTENTS.

THIRD SERIES, No. CCCIV.—APRIL 1, 1897.

PART I.—ORIGINAL COMMUNICATIONS.

	PAGE
ART. XIV.—Sixty-one Cases of Partial and Complete Excision of the Tongue. By W. I. WHEELER, M.D. and Master of Surgery, Univ. Dubl.; F.R.C.S.I.; Past President, R.C.S.I.; Surgeon to the City of Dublin Hospital, &c., - - - - -	281
ART. XV.—On Acute Intestinal Obstruction. By J. S. M'ARDLE, F.R.C.S.I.; Surgeon to St. Vincent's Hospital, Dublin, - - -	296
ART. XVI.—A Case of Diabetes Insipidus. By JOHN J. BURGESS, F.R.C.S.I., - - - - -	306
ART. XVII.—A Case of Enormous Enlargement of the Spleen; Complete Recovery. By MONTAGU L. GRIFFIN, M.B., B.Ch. Univ. Dubl., Plymouth, - - - - -	310

PART II.—REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1. Twentieth Century Practice. An International Encyclopædia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City,	316
2. Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. BARRETT, M.B., M.R.C.S.E., L.D.S.E. Third Edition,	319
3. Refraction of the Eye; its Diagnosis and the Correction of its Errors. By A. STANFORD MORTON, F.R.C.S. Sixth Edition, -	320

	PAGE
4. Intestinal Intoxication in Infants. By F. W. FORBES ROSS, M.D., Clinical Assistant, Children's Hospital, Paddington-green, London,	320
5. Handbook of the Clinical Research Association, Limited. With the Annual Report for 1895, - - - - -	322
6. Practical Hints on District Nursing. By AMY HUGHES, Superin- tendent of Nurses, Bolton Union Workhouse; late Superintendent of the Central Training Home, Queen Victoria's Jubilee Institute for Nurses for the Sick Poor, - - - - -	323
7. Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. I. A—Azzurri,	324
8. A Pictorial Atlas of Skin Diseases and Syphilitic Affections. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P. Part VIII., -	324
9. Herbal Simples approved for Modern Uses of Cure. By W. T. FERNIE, M.D., - - - - -	325

PART III.—SPECIAL REPORTS.

REPORT ON MATERIA MEDICA AND THERAPEUTICS. By WALTER G. SMITH, M.D., Univ. Dubl.; ex-President of the Royal College of Physicians of Ireland; Professor of Materia Medica, School of Physic in Ireland, Trin. Coll. Dubl.; Physician-in-Ordinary to His Excellency the Lord Lieutenant; Physician to Sir Patrick Dun's Hospital - - - - -	327
--	-----

PART IV.—MEDICAL MISCELLANY.

ROYAL ACADEMY OF MEDICINE IN IRELAND:—

SECTION OF PATHOLOGY.

Exhibition of Pathological Hearts. By DR. J. B. COLEMAN, -	337
Achorion Schönleini. By DR. MCWEENEY, - - -	340
Pyogenic Organisms. By DR. MCWEENEY, - - -	340
Trichinosis. By DR. ALFRED R. PARSONS, - - -	341

SECTION OF SURGERY.

Excision of the Tongue. By MR. W. I. WHEELER, - -	343
---	-----

SANITARY AND METEOROLOGICAL NOTES. Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F.R. Met. Soc.; Diplo- mate in State Medicine and ex-Sch. of Trin. Coll. Dubl.:—

Vital Statistics for Four Weeks ending Saturday, February 27, 1897,	353
Meteorology—Abstract of Observations made at Dublin for the Month of February, 1897, - - - - -	360

PERISCOPE:—

Ether v. Chloroform,	-	-	-	-	-	-	315
Gazette Médicale de Paris,	-	-	-	-	-	-	326
Thought Weighing,	-	-	-	-	-	-	326
Arsenic in Scarlatina,	-	-	-	-	-	-	336
Statistical Gleanings,	-	-	-	-	-	-	336
Horse-meat in Paris,	-	-	-	-	-	-	352
Holloway Sanatorium,	-	-	-	-	-	-	352
August in the United States,	-	-	-	-	-	-	365
Suicides, - - -	-	-	-	-	-	-	365
Glandular Fever in Children—"Febrile Polyadenitis,"	-	-	-	-	-	-	366
Statistics of Lactation,	-	-	-	-	-	-	367

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS:—

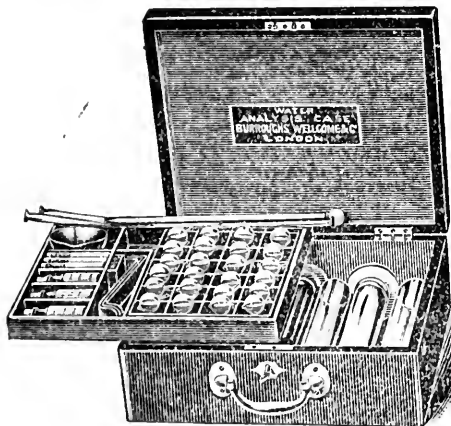
Filmogen, - - -	-	-	-	-	-	-	367
New Palatinoids and Bipalatinoids,	-	-	-	-	-	-	368

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THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

APRIL 1, 1897.

PART I. ORIGINAL COMMUNICATIONS.

ART. XIV.—*Sixty-one Cases of Partial and Complete Excision of the Tongue.*^a By W. I. WHEELER, M.D., and Master of Surgery, Univ. Dubl.; F.R.C.S.I.; Past President, R.C.S.I.; Surgeon to the City of Dublin Hospital, &c.

BEFORE referring to the operative measures adopted for partial or complete excision of the tongue, it may not be uninteresting briefly to review the development and anatomy of this organ, to refer to the distribution of its muscular structure, and to mention its arterial and nervous supply.

The tongue is developed in two portions—an anterior and posterior; the posterior, being developed at the junction of the 1st and 2nd branchial arches, is as far forward as the foramen cæcum, the anterior being developed between the mandibular and hyoid arches. The anterior formed and springing from what is termed the tuberculum impar differs in many respects from the posterior, the posterior portion of the anterior development meeting it at the foramen cæcum. This anterior portion of the tongue is divided into two distinct and separate portions by the median raphe, and is separate and distinct at each side of the median raphe.

^a Read before the Surgical Section of the Royal Academy of Medicine in Ireland, Friday, January 22, 1897. [For the discussion on this paper, see page 343.]

There are some who would assert that the transverse muscles cross at the tip, but this has been disproved; while the more cautious in assertion state that it has not yet been proven that those transverse muscles do cross at the extreme end of the tongue; while others assert that the stylo-glossus muscles cross at this point. But not only has the contrary been demonstrated by competent authority, but in a dissected tongue, kindly lent me by Professor Fraser from his collection in the Royal College of Surgeons, which I recently exhibited at the Clinical Club, the termination at their respective sides of the median raphe was obvious.

The arterial supply derived from the lingual artery is worthy of notice, no anastomoses taking place between the two terminal or ranine branches. True, Power, in his work on "*The Surgical Anatomy of the Arteries*," and other authorities, state that the ranine arteries of opposite sides anastomose, but injecting the artery on one side has not injected the vessel of the other side; and Hyrtl, of Vienna, has demonstrated that they do not anastomose, and has called them end arteries.

The nervous supply is the hypo-glossal, lingual, and glosso-pharyngeal.

This brief description of the anatomical arrangement shows that the anterior portion of the tongue is a double and separate organ, that neither the intrinsic nor the extrinsic muscles cross the raphe, that its mucous surfaces are distinct in character from the posterior portion of the tongue—important knowledge from a surgical aspect. I have myself seen a congenitally-divided tongue in an infant with hare-lip.

The surgical value of this anatomical knowledge appears to me to be primarily twofold—1st, that should one side of the tongue anterior to the foramen cæcum only be diseased, the diseased portion can be completely removed without excising the entire tongue; 2nd, that both the character of the mucous membrane and the situation of that portion of the tongue terminating at the foramen cæcum render it less likely to be primarily affected, and that disease more usually extends from the anterior portion of the tongue, which is far more liable to irritation on account of its situation and the roughened character of its mucous surface. I have never

seen cancer attack primarily that portion of the tongue which is posterior to the foramen cæcum except once.

Time will not allow me to enter fully into the various causes of cancer of the tongue—that malady we are all so anxious to combat successfully; but besides the cancer from direct irritation, syphilitic disease appears to be a potent factor.

Some few years ago I communicated to the Pathological Section of this Academy observations upon syphilis as a source and cause of cancer of the tongue. Quite recently I have given Dr. McWeeney a portion of a tongue I removed from a male, forty years of age, who had a marked syphilitic eruption when admitted to hospital, also an ulcerated tongue. The eruption and ulceration improved under medicinal treatment, but the diseased portion of the tongue removed proved to be epithelioma.

Stallard, Virchow, and others attribute the increase in cancer of the tongue to smoking, dram drinking, and rough eating. That these produce cancer directly I very much doubt, but they exercise a very potent indirect effect, tending, as they do, like syphilis, to produce a condition of chronic inflammation of the superficial layers of the mucous membrane, which frequently precedes cancer, and may be said to till the soil for carcinoma.

Nor can it be wondered at that the tongue should be a selected organ for cancer; to me it has been a source for contemplation why it is not more frequently the seat of that disease, on account of its constant contact with broken and carious teeth, which, possibly embedded in tartar, are continuous sources of irritation, and why the malignant growths should invariably, if not always, be of the epithelial type.

Plates and false teeth, and the diseased stumps retained by dentists to afford a better foundation for their work, are not an uncommon cause of irritation and consequent cancer.

Smoking is also a cause of irritation, especially the clay pipe, which produces an excoriated surface on the lingual extremity. Professor Ludwig has stated that carbonate of ammonia, carbolic and acetic acids, which are present in the products of tobacco smoke, are deleterious, and that their action upon the tongue may set up glossitis or ichthyosis,

which is known by every practical surgeon to be one of the causes of epithelioma. Heredity has been stated to be a pre-disposing cause of malignant disease of the tongue, but of this I have no knowledge.

If the causes of carcinoma of the tongue may be divided into pre-disposing and exciting, amongst the pre-disposing age and sex would stand in the first rank. Youth appears to be almost exempt, and only a few cases are recorded in which the patients were less than thirty years. From 290 cases from different authors, 8 only were between twenty and thirty years of age; their exact age is not stated, so that it is not improbable that they were only just under the age of thirty. After 30 years no one seems to be safe from the disease. Out of 61 cases I operated upon, there was not one under forty years of age, and the majority of cases were over fifty-five years, and one only was a female.

I have not alluded to the so-called parasite of cancer described by Dr. Ruffer in England. Dr. Hebb has described similar appearances to those of Ruffer in a fibrous thickening of the omentum.

Within a measureable distance of time a statement has been made that the tongue is sometimes attacked by hard and soft carcinoma. It appears to me that this statement rests only on the foundation of the hardness, or softness, or large size of particular tumours. My experience leads me to believe that the tongue is subject only to the epitheliomatous carcinoma. No part of the tongue is exempt from carcinoma, but I have never seen the posterior portion of the tongue behind the foramen cæcum primarily attacked by cancer, except in one instance, due to syphilitic deposit. In relation to seat, it must not be forgotten that two carcinomas may be developed at the same time on the same tongue.

Carcinoma of the tongue may appear as a blister, a crack, a fissure, a wart, a tubercle, a nodule, an excoriation. It is not to be understood that cancer desires to assume the appearances of other diseases, but that all these various forms may be productive of and degenerate into carcinoma. There is very sufficient evidence that for a lengthened period any of the above forms may remain in the pre-cancerous stage.

Epithelial cancer is described under different forms—soft, warty, sloughy sore, with jagged edges and hard base; or only as a dense mass which contracts the tissues of the tongue so as to resemble cicatricial tissue.

Clinically, I recognise two forms of epitheliomatous disease on the tongue; one is the flat, the other the penetrating. This division is useful from both a diagnostic and prognostic point of view; for the course pursued by a carcinoma depends much on which of these two forms it happens to be, and also upon the situation.

For, if the disease commences in the dorsum of the tongue it may never reach the neighbouring structures, whereas if the origin is on the border of or beneath the tongue, the floor of the mouth is rapidly affected. In almost every case which I have seen, which commenced as a general soreness or blister, analogous to the non-penetrating, there was rarely contamination of the glands; whereas when the disease originates as a nodule and breaks down, the glands are invariably attacked early. It is by the continuous observance of ulcers of the tongue that an accurate diagnosis can be arrived at, and a satisfactory prognosis. Secondary deposits rarely occur when cancer attacks the tongue. Cancer of the tongue may, therefore, be looked upon as a local disease, imperiling life by its position and not by dissemination, wearing out the sufferer by excruciating pain, and by the poisonous fluids that are swallowed, relief being obtained only by the administration of morphin and by the division of the gustatory nerve. I divided the gustatory nerve on three occasions; pain was relieved and salivation lessened.

The diseases most likely to be mistaken for carcinoma are—syphilis, tuberculous ulcers, simple warty tumours, simple ulcers, fissures. Time will not permit me to enter upon a differential diagnosis, but I may say that by scraping the surface in doubtful cases and obtaining a microscopic examination, an aid in diagnosis is afforded not to be despised. The rapid and continuous growth of the kindred sciences has made the work of co-ordination less impossible, perhaps, but it has brought with it enormous and ever-increasing demands on the intellectual equipment of those who would seek to grapple with it.

The subjective symptoms in carcinoma are pain and salivation. The latter may not be troublesome until the disease has made considerable progress, whereas the former may be present at the very earliest period of the disease; these symptoms are likewise present in tuberculous ulcers.

To the above symptoms may be added enlargement of the glands beneath the jaw and of the lymphatic glands. The glands may be so large as to be plainly visible, but often have to be sought for and sometimes they are not enlarged at all.

I shall record briefly a few of my cases, epitomised from my case books:—

CASE I.—A coachman, aged forty-seven, suffering from lingual carcinoma upon the right side of dorsum of tongue, and extending along right border for about two inches backwards, experienced considerable pain in his right ear, and when taking food there was excessive salivation, also emaciation caused from a disinclination to take nourishment. There was not any glandular enlargement. His oral orifice being very small I had to divide his right cheek as far as his masseter muscle; a suitable gag was used, and his tongue having been forcibly excluded was divided with the thermo-cautery scissors behind a long needle, which had transfixed his tongue posterior to the disease.

Eighteen months after the operation he had no return. I never heard of him since.

Microscopical report of examination—Epithelioma.

CASE II.—A male, aged fifty-three years, carpenter by calling, suffered from carcinoma of tip and left half of his tongue, extending nearly to the foramen cæcum. He experienced excruciating pain, which traversed his left ear and the side of his head. It was relieved by hypodermic injections of morphin.

His left submaxillary gland was enlarged, and much thickening could be felt even below the submaxillary space.

I separated the left anterior half-arch of his palate, and divided the lingual attachments to the floor of his mouth, having previously seized his tongue with the forceps I am in the habit of using. Not, however, having sufficient room, I was obliged to divide his left cheek. I excised the diseased half of his tongue, as in the former case.

In about a fortnight after I removed his submaxillary gland, and tracing downwards the thickened connective tissue I removed three or four enlarged lymphatic glands.

The disease returned in the floor of his mouth, which was removed by a second operation.

No return thirteen months after.

Report of examination—Epithelioma.

CASE III.—A gentleman, aged over sixty years, consulted me for an epitheliomatous growth on the right anterior portion of his tongue, extending backwards for about $2\frac{1}{2}$ inches. He did not experience much inconvenience except when he partook of food. There was not any glandular enlargement. It is not difficult to detect glandular enlargement in the submaxillary region if a careful internal and external examination be made. Suffice it to say I removed the growth through his mouth, dividing his tongue with a scissors in the median line and then transversely. Dr. Harley kindly administered ether. Dr. Foot, who was his physician, was present, as also Mr. Stack, his dentist, and the late Dr. Charles Lyster, of Kilkenny. The report of the examination was epithelioma.

He never had a return of the disease. Six years later I was called to see him for intestinal obstruction of about a week's duration. Dr. Gordon saw him with me, and Mr. O'Grady assisted at this operation, which was performed as a *dernier ressort*.

CASE IV.—Male, blacksmith, resident in Kilkenny, was afflicted with cancer of the left anterior and left lateral half of his tongue, and suffered from intense pain and profuse salivation, accompanied by a most loathsome factor. He came under my care in hospital 18 years ago. There was left side glandular enlargement; the floor of his mouth was unaffected. His left cheek having been divided and the hæmorrhage consequent on such controlled, a long needle transfixed his tongue behind the disease and posterior to which the tongue was removed by means of the thermo-cautery scissors.

Report of the examination of the removed portion was an epithelioma. He healed kindly to cure. In three weeks after I removed the enlarged gland, which had diminished in size, and traced beneath, through the medium of the thickened connective tissue, two or three small lymphatic glands, which I also removed. This patient was treated in St. Mark's Hospital for some affection of his eyes three years ago, when he called at the City of Dublin Hospital, where I saw him; there was no recurrence of the disease in his tongue then—about fifteen years after the operation. He is still alive and well as far as I know.

CASE V.—Four years ago I operated on a gentleman in Mespil Hospital, who had a cancerous growth in the centre of his tongue, about $1\frac{1}{2}$ inches from the tip, which originated from a syphilitic deposit. Dr. Harley and Dr. Hadden were present. There was no glandular complication. The disease and almost the entire of the tongue were removed by an ordinary scissors.

In eleven months afterwards a nodule appeared in the anterior portion of the floor of his mouth towards the left side, and slight glandular enlargement in the submaxillary region of the same side. The new growth I removed, as also his submaxillary gland and the lymphatic glands in the neck. There has been no return, now over three years and nine months since the second operation.

CASE VI.—Six years ago two sailors presented themselves at the City of Dublin Hospital in the same week, both suffering from carcinoma of the tongue. They were both over forty years of age, and under fifty, and although no way related were not unlike in appearance and conformation. They were both below the middle height, the address of one was Kingstown, the other North Wall. One (B.) suffered from epitheliomatous ulceration over the anterior two-thirds of his tongue, the floor of his mouth was also implicated. The disease was of thirteen months' duration. The other (F.) suffered from epitheliomatous ulcer on the left margin, an inch behind the lingual tip, of six months' duration. Neither had any syphilitic history. The cause assigned in the first case was being scalded with hot whisky; the cause assigned in the second case, with the deep lateral ulcer, was from chewing tobacco. Both had excellently sound teeth; neither had pain except on irritation; neither had increased salivation; neither had enlargement of the glands or any trace of thickening, nor could any abnormal resistance, either externally or internally, be felt. Both were constitutionally healthy. Both these patients had unusually small oral apertures, very narrow mouths; this, together with a perfect set of teeth, rendered it quite impossible to satisfactorily remove the disease without considerably more room than was afforded through the mouth.

I therefore determined to divide the jaw and lip in median line after the plan of Roux and Sédillot.

The patient B., with the superficial ulceration of his tongue and the diseased floor of his mouth, I operated on with the ordinary scissors, dividing the structures by a series of successive short snips, and his tongue transversely; the ranine arteries were deligated.

As to the second patient, I removed the left half of his tongue well beyond the disease with the thermo-cautery scissors. The divided jaw in each case was brought together by suture. They were discharged from hospital in seven weeks after the operations.

I saw one of these patients a year, the other eleven months, after the operation. There was not any return of the disease. They promised to come back if they were again attacked.

It would be irksome to record individually all the cases and the operations I refer to for partial and complete removal of the tongue, many requiring the osseous structures also to be removed. Suffice it to say, out of 61 operations performed by me for malignant disease, none died from the effects of the operation, save one, a male, on whom I operated by Köcher's method modified; he died of asthenia. I did not tracheotomise him.

Of the 61 cases, in 29 I believe the disease returned. Many of these operations were performed, not with a view to cure, but merely to relieve, and remove a foul, sloughy, foetid mass, and thus render existence more tolerable; 22 others I have not been able to trace at all directly myself. I heard indirectly that five were healthy three or four years after operation.

The remaining that I have information of are as follows:—

1. No return 1 year after operation.
2. No return 11 months after operation.
3. No return 13 months after second operation.
4. No return 18 months after.
5. No return 3 years and 9 months after.
6. No return 6 years after. Died of other disease; 73 years.
7. No return 15 years after. I believe now alive.
8. No return 7 months after.
9. No return 3 months after; now in hospital.
10. No return 2 months after operation.

The three latter recorded are too recently operated on to form any definite opinion as to their immunity from disease. One of them is a gentleman operated on in Mespil Hospital in July last. Drs. Harley, Hadden, and Mr. O'Grady were present. The prognosis is favourable in this case, the form being flat epithelioma.

One case is still in hospital, operated on in November last. This was a most unpromising case. He was admitted with bronchitis and purulent urine, and extensive disease of his tongue involving also the floor of his mouth. His left submaxillary gland was enlarged; he was exceedingly weak. He showed a tendency to suppurate superficially in his left submaxillary space; I opened an abscess in this region, removed the gland, and as the lingual artery was exposed I ligatured it. I removed all the diseased portion of the patient's tongue and the disease in the floor of his mouth. The electric cautery was used.

There is only one prognosis for unoperated lingual carcinoma—death; and a like prognosis for a large number of operated cases. That complete recovery does take place is undoubted, as proved by my cases.

Mr. Heath had patients alive eleven and five years after operations, and similar surgical records are extant. Operations on the tongue and in the mouth usually heal kindly, and this was formerly thought to be due to the sulpho-cyanide of potassium in the saliva, but in a recent discussion upon this subject in the Clinical Club, Dr. McWeeney related the reasons given by a French experimentalist, who had made investigation on this subject in the Pasteur Institution. He found that the saliva had no bactericidal power whatever, and that the most virulent cocci were abundantly present in it. He likewise found that the sulpho-cyanide of potassium exercised no anti-bacterial or antiseptic effect in the quantity in which it is contained in the saliva. The cause of the rapidity of the healing process he found to be in the fact that saliva exercised a powerful positive chemotactic influence upon leucocytes, the result being that these cells always appeared in enormous numbers at any solution of continuity in the buccal mucous membrane, and completely encapsuled any microbic focus of infection which might be originating from such a wound. He confirmed this result by rubbing extremely virulent cocci into small abraded wounds in the mouth cavity of guinea pigs, and similar cocci into some portion of the abraded cutaneous surface in control animals. The animals inoculated in the mouth soon recovered, with slight symptoms, whereas in the other set of animals

an intense inflammatory process, often resulting in large abscesses, or even in general infection, was the result. By killing some animals so treated at various periods after the inoculation, and subjecting the inoculated regions to microscopic examination, he was able to make out that the cocci he had rubbed into the wound in the mouth were surrounded by an enormous accumulation of leucocytes very soon after their introduction, and before multiplication had had time to set in. The cocci were mostly found inside the leucocytes, and were obviously undergoing intercellular digestion—phagocytosis. In the case of the cutaneous wounds the collection of leucocytes was much smaller, and the organisms were in many cases enabled to get into the lymphatic channels and set up spreading inflammation..

I have considered it expedient to ligate the external carotid before removing the tongue tonsil and part of the palate, but preliminary ligature of the lingual arteries in excision of the tongue, as recommended by Mirault, is not required; there is no hæmorrhage from the ranine arteries to cause alarm, and as the operation upon the tongue is frequently postponed until the wounds for deligating the lingual vessels heal, the disease in the mouth is increasing and may be infecting the patient. So likewise when the glands beneath the maxilla are removed before removing the diseased tongue, the operation on the tongue is often postponed until the wound made to remove the glands has healed; the longer the foul diseased tongue remains unremoved, the chances of septic contamination increase. True, there are some cases where glands are never contaminated in lingual cancer; in its early stages it is a purely local affection; but in cases where the salivary glands are enlarged, I am convinced that it is better surgery to excise the cancerous tongue first, and after the diseased glands. The submaxillary glands may be enlarged through the connective tissue, or by septic or sympathetic influences, and when the diseased tongue—the source of irritation—is removed the glands will usually subside a little, and can be more perfectly and completely extirpated, and the connective tissue will be a guide to the lymphatic glands deeper in the neck, where the lymphatics directly communicate.

The proposition to examine all the lymphatic regions for all the lymphatic glands that may be engaged in cancer of tongue is not practical, and savours of inexperience. There is no analogy in clearing out the axillary glands in cancer of the breast.

Köcher removes the glands at the time of operation. He also recommends a preliminary tracheotomy, which, in my opinion, is as unnecessary a procedure as preliminary ligation of the lingual arteries through fear of hæmorrhage. I have seen only two tracheotomies preliminary to the operations on the tongue, and both cases died. Tracheotomy subjects the patient to an additional operation without any compensation for the consequent loss of strength and power.

The earliest operation on the tongue was by Pimpernelle, who died in 1658, and numerous operations have been performed connected with the names of Louis, Inglis, Cloquet, Langenbeck, Mirault, Whitehead, Nunneley, Paget, Jaeger, Maisonneuve, Syme, Regnoli, Billroth, Köcher, but in truth there is no individual operation suitable to every case of lingual cancer.

When the tongue only is engaged, and to a limited extent, it can be removed through the mouth. When the floor of the mouth is engaged more room will be required.

I have performed nearly all the recent recognised operations for lingual cancer, or modified them. I prefer the thermo-cautery scissors when suitable. It will be found an admirable instrument in the majority of cases of lingual cancer should the disease be not too extensive. The scissors, a gag, a long needle, ligatures, a scalpel, and a few hæmostatic forceps and sutures are all that is required; there is no bleeding except from the ranine arteries; this is to be encouraged. I never use a ligature through the tongue; the operation can be performed through the mouth, but if further room is necessary the cheek may be split. The tongue is held by a toothed lingual forceps, and the cold blade of the scissors is passed under the surface of the tongue, while the heated blade cuts through the tongue from the upper surface. Just as the ranine arteries are about to be severed, the hot blade is allowed to cool a little in order that the vessels may bleed; they are secured by a hæmostatic forceps, and ligatured.

This completes the operation; there is no charring of the structures unless the instrument is too hot. In a large portion of cases this procedure will be found efficient and sufficient.

In conclusion, I would wish to emphasise the necessity for the most careful attention to the condition of the mouth and diseased surfaces prior to and after operation. The strictest cleanliness should be observed; the mouth should be douched and sprayed frequently before the operation, and equal care and supervision should be exercised after the operation. I feel that many cases are lost through septic influences for want of this attention.

I have never found it necessary to dress the mouth with gauze as advised by some. After the operation I have the patient fed partly by the rectum, and through a tube attached to an ordinary feeding-cup, but the greatest care and regularity are given to douching and washing out the mouth.

The following modified table, quoted from Wölfler, is published by Butlin:—

EARLIEST IRREGULAR OPERATIONS.

- | | |
|-----------------|---|
| 1 Pimpernelle | died 1658.—Was probably the first to excise the tongue with success. |
| 2 Marchetti | „ 1664.—Extirpated a cancer of the tongue by actual cauterly; probably the first recorded extirpation for this disease (<i>Phil. ac. Med. Observ.</i> , s. 62). |
| 3 Val. Hoffmann | „ 1692.—Removed a tongue affected with macroglossia. |
| 4 Ruysch | „ 1737.— |
| 5 Memonista | „ 1737.— |
| 6 Heister | „ 1743.—Gave the first methodical description of operative treatment of cancer of the tongue (<i>Chirurgie</i> , Nurnberg, 1763). |
| 7 Buxdorf | „ 1754.—Excised a true cancer of the tongue with the knife (<i>In Actis Helvet</i> , vii., 116, Basil, 1772). |
| 8 Guthrie | „ 1756.—Was, probably, the first English surgeon to excise a cancer of the tongue, using the knife, followed by cauterisation of the cut surface. |
| 9 Louis | „ 1759.—Ligatured a “fungus” of the tongue, and later (1774) spoke at length and clearly in favour of total excision for cancer (<i>Mém. Acad. R. Chir.</i> , 1774). |

DEFINITELY DESIGNED OPERATIONS.

LIGATURE.

- 10 Inglis died 1803.—Introduced ligature of the tongue from the mouth for cancer, the cords being drawn with needles through the tongue and round the tumour (*Edin. Med. and Surg. Jour.*, 1805, p. 34).
- 11 Major „ 1827.—Split the organ down centre to apply the ligature to the diseased half from the mouth.
- 12 Cloquet „ 1827.—Also split the organ, but introduced the ligature by a suprahyoid incision, and strangled the diseased half (*Arch. gén.*, xii., 511).

WEDGE-SHAPED EXCISION.

- 13 C. J. Langenbeck died 1819.—Introduced wedge-shaped excision of diseased part of tongue, with careful suture of resulting flaps (*Biblioth. f. Chir. u. Augenh.*, 2 Bd., s. 487).

PRELIMINARY LIGATURE OF LINGUAL ARTERY.

- 14 Mirault died 1833.—Introduced preliminary ligature of lingual artery to give a clear bloodless field for extensive incisions. He was followed by Roux, and later by Roser (*Archiv. gén.*, vi., 5, 636).

ÉCRASEMENT.

- 15 Chassaignac died 1854.—Introduced the *écraseur*, employing Cloquet's suprahyoid method, and defining it more exactly, *i.e.*, using puncture instead of incision (*Traité de l'écrasem. lin.*, p. 31).
- 16 Middeldorpf „ 1854.—Introduced the galvanic *écraseur* (*Schmidt's Jahrb.*, Bd., 107, 260).
- 17 Nunneley „ 1856.—Introduced the suprahyoid use of the *écraseur* into England, adopting Chassaignac's modification (*Medical Times and Gazette*, 1862).
- 18 Girouard „ 1857.—Employed circumpuncture with rods of caustic (*Arch. gén.*, 1857, p. 100).

DIVISION OF THE CHEEK.

- 19 Jaeger died 1831.—Was the first to divide the cheek for free access to the tongue (*De Extirp. Ling.*, 1831).
- 20 Maisonneuve „ 1858.—Divided both cheeks from angle of mouth for same purpose (*Compt. rend. Acad. Sci.*, T. 57, 831, 1863).
- 21 Collis „ 1867.—Reintroduced Jaeger's operation, using the *écraseur* (*Dub. Quar. Jour.*, xliii., 3, 1867).

DIVISION OF THE LOWER JAW.

- 22 Roux died 1836.—Was the first to divide the lower jaw and lip in mid-line, in order to gain free access to the floor of the mouth and tongue (*Maisonneuve's "Thèse,"* p. 146).
- 23 Sédillot 1844.—Improved this method by dividing the bone by a serrated cut (*Gaz. des Hôp.*, 83).
- 24 Syme 1857.—Divided the jaw in mid-line, and excised with the knife (*Lancet*, 1858, i. and ii.).
- 25 Billroth 1862.—Divided the jaw and soft parts at the side in two places, and turned down the flap of skin and bone so formed, replacing and wiring the bone afterwards (*Arch. f. Klin. Chi.*, 1862, 681).
- 26 B. V. Langenbeck 1875.—Divided the jaw and soft parts opposite the first molar tooth on one side, in order to gain access to side of the mouth for removal of the tongue, glands, and part of the palatal arch and tonsil (*Benary's "Inaug. Dissert.,"* 1876).

INFRA-MAXILLARY OPERATIONS..

- 27 Regnoli 1838.—Opened the floor of the mouth from below by an incision from middle of hyoid bone to chin, ending in another semi-lunar incision along the border of the jaw. The tongue was drawn through the opening and excised (*Bull. Sci. med. Bologna*, 1838).
- 28 Czerny 1870.—Modified Regnoli's procedure, forming lateral flaps.
- 29 Billroth '71-6.—Modified it still further, extending both ends of the curved incision much farther backwards, and omitting the incision in mid-line (*Langenbeck's "Archiv.,"* Bd. 16. Hft. 2).
- 30 Köcher 1880.—Introduced a method of opening the mouth from behind and below the angle of the jaw to reach the base of the tongue, and remove it, with all the lymphatic glands situated there (*Deutsche Zeitschft. f. Chir.*, xiii., 146, 1880).

ART. XV.—*On Acute Intestinal Obstruction.** By J. S. M'ARDLE, F.R.C.S.I.; Surgeon to St. Vincent's Hospital, Dublin.

I BASE this communication on the results of 41 operations carried out for the relief of acute intestinal obstruction, that is, operations carried out during the acute trouble. The list does not include laparotomies for chronic obstruction or intestinal affections other than those in which life was in imminent danger at the time of the procedure. Of these, 34 recovered and 7 died. Not one of the cases which succumbed did so as a result of operation. Death occurred in the following:—

1. Perforation at posterior aspect of 1st stage of duodenum.
2. Perforation of cæcum.
3. Thrombosis of mesenteric veins.
4. Rupture of abscess from appendicular disease.
5. Extensive tuberculosis of mesenteric glands.
6. Malignant infiltration of omentum.
7. Extensive peritoneal cancer.

That every surgeon has a perfect right to his own opinion, and an unlimited license in the expression thereof, is a fortunate circumstance. It is deplorable, however, that a position in the gift of the profession can be utilised for the diffusion of personal views (however well founded) without full and free discussion.

In a brilliant communication to this Section a former President said:—

“As far as my sight reaches I can see no direction in which the craving for novelty and originality has caused men to overstep themselves more than in the operations undertaken so often and with such a light heart for the relief of some forms of obstruction of the bowel. The hateful expression that ‘*there is practically no danger in opening the peritoneum*’ is ever before the reader in these days, and, as regards a class of cases I wish to speak of, a more false or poisonous teaching was never promulgated.”

* Read before the Surgical Section of the Royal Academy of Medicine, Friday, December 11, 1896. [For the discussion on this paper, see page 245.]

Without the safe-guards which free discussion would set up around the position taken in the paper alluded to, the views set forth are assumed to have the sanction of the entire profession, and as such they rightly influence the minds of those who have to depend on hospital workers for light and leading in cases of extreme gravity, as all these cases are, in fact and deed. All debatable points are out of place in a communication from a position of responsibility which has its duties to the profession as well as its privileges to the recipient of the honour.

The cases which I desire to bring under your notice make me believe :

1st. That my contention about unquestionable pronouncements is correct; and

2nd. That the statements made with all the semblance of finality are not only incomplete but capable of a construction which has led to fatal consequences over and over again.

That the cases referred to in the communication above mentioned constitute but a small percentage of those demanding surgical interference is proved by the statistics given by Treves, who says that of 1,000 cases of death from intestinal obstruction only 60 were due to fæcal accumulations, while 940 were the result of troubles for the most part removable by exact surgical treatment.

Thus one must see that many of the reported cures by physic are only instances of temporary relief, often from conditions in which laparotomy would lead to eradication of the disease.

Now the mortality after abdominal section in the pre-aseptic era was 73 per cent.; it is still 68 per cent. How is this to be explained. The answer is given with true American bluntness in Keen and Whyte's excellent treatise on surgery, where we read as follows:—

Keen and Whyte.—"Abdominal section in the treatment of intestinal obstruction has so far been attended by a fearful mortality, owing to the fact that most operations were performed at a time when the patients were in collapse, or when the parts involved in the obstruction had undergone advanced and often irreparable pathological changes."

Treves.—"In genuine cases of acute intestinal ob-

struction there is so extremely slight a prospect of spontaneous relief that that possibility—which has been exaggerated by imperfect reports of cases and errors in diagnosis—may be disregarded when the question of treatment is considered.”

The opinion of Lockwood is referred to in a letter relating to one of the cases which I bring before you, and as it contains some definite views on this subject you will, I hope, pardon me if I quote from it. In reference to an article by Lockwood, in the *Clinical Review* for March, 1896, he says: “The best remark in the communication is—‘In hospital practice it is very sad to see the number of cases of intestinal obstruction in which delay has sealed the patient’s fate.’” He then continues, “I believe firmly that all doubtful cases of intestinal obstruction should be in the Surgeon’s hands, as in nine cases out of ten surgery will save where drugs will kill. Before I knew the advantages of operation my patients invariably died with a pint of olive oil in their bowels, and some were fortunate in not bringing O’Beirne’s tube as well to the grave.”

This is the opinion of a man who has studied both sides of the question, and few who have any experience will disagree with him.

That many cases of constipation are relieved by enemata I am quite certain. That opium, belladonna, salines and calomel have their uses I do not question, but that any or all of these ever cured a case of acute intestinal obstruction I doubt very much. On the other hand, I am quite convinced that they have often raised false hopes in the hearts of patients and their friends, while deluding the medical attendant into the belief that he was acting fairly by those who entrusted their lives to his keeping. I shall now briefly refer to a few cases which have convinced me of the necessity for vigorous and timely interference in obscure abdominal troubles.

I was recently called to Mayo to see a gentleman who for six days had severe pain and distension of the abdomen. There was a history of his having eaten vegetables, and immediately going off to shoot. He felt severe pain some hours later, and not being relieved by hot punch and turpentine stupes, he obtained the assistance of a medical

man, who gave him morphia. Later, two others in consultation ordered belladonna and enemata. When I arrived I found that all the usual remedies had been employed, but without effect. All the recent literature had been hunted up to find some pretext for the avoidance of surgical interference, and to the great delight of the usual attendant he found some authority for doing nothing. The bowels moved on the day of my arrival, but the patient died. I had an opportunity of opening the abdomen, and found it full of dark, foul-smelling serum. The entire colon was dark in colour and covered with grey patches; there was a cancerous stricture at the splenic flexure of colon. How could palliative measures be effectual here?

In December last year I was called to Limerick to see a gentleman who had suffered for some days with abdominal pain and tenderness. The bowels could not be got to act. He had heard with great delight of the possibility of relief without operation, and willingly submitted to procedures ten times as trying and infinitely more disgusting. The end was such as one might expect when physic has occupied the time in which modern surgery could be effective; he died before my arrival, although some scybalous masses had been removed from the lower bowel.

Two months ago I was called to see a lady in the South of Ireland who had been treated for intestinal obstruction for five days. Under the influence of belladonna and opium, and supported by the opinion expressed in the communication alluded to in the opening of this paper, which was read to her by her medical attendant, she flatly refused to be operated on, although I proved conclusively that peritoneal effusion had already taken place. She was convinced that medicine was all-powerful, and I regret that the gentleman who advocated lavage, rather than laparotomy, was more persuasive than I. Forty hours afterwards this lady died, and the Transactions of this section influence her attendant no more. So at least he declares. I do not object to medical treatment being tried, but I do strongly protest against stimulating men to revert to the do-nothing methods of old, and claiming every case of constipation relieved as one more case of acute intestinal obstruction cured.

A little time ago I was called away from the theatre of St.

Vincent's to see a case on the north side of Dublin. On my arrival I learned that the patient had suffered from inguinal hernia for years. Four days before I saw him he had been exposed to cold, and the hernia became irreducible. Then after lying in bed it went back of itself, but still having pain in the abdomen, and the bowels not moving, he consulted a doctor, who called in another on the evening of the third day. On the morning of the fourth day I saw him, and decided that laparotomy was necessary, not to relieve the bowels so much as to wash out the peritoneum. While I was preparing my instruments the bowels acted copiously, but soon after, and before beginning the operation, he died, with all the evidences of sepsis. Evidently what happened here was, that the infected peritoneal fluid which was not absorbed while tension was high and the mesenteric and sub-peritoneal veins were occluded by pressure of the intestinal contents, rushed rapidly into the circulation and produced the rapidly fatal result once the large bowel was emptied.

I have recently had further proof of the danger of leaving peritoneal fluid to be absorbed. After removing a large enterolith from the small intestine I closed the abdominal wound without flushing the abdomen, which contained a light sherry-coloured fluid; three hours after the temperature went up, and at the sixth hour it reached 103.5° . Seeing the patient three hours later I examined the loins, and all dullness was gone, showing that rapid absorption had taken place. At this visit the temperature had fallen to 99.5° , and the following morning it was normal, no further disturbance taking place until recovery was complete.

These fatalities have convinced me that delay is a most serious matter in cases of obstruction, and the great tendency to advocate it is a deplorable evidence of a retrograde movement on the part of some writers of the present day. Indiscriminate laparotomy is not advocated by any surgeon, but the pretended fear of such a development is made a point on which to turn back to the unenlightened teaching of half a century ago, and a platform on which to exploit unfounded theories, the death knell of which has long since sounded in every home of surgical science in Europe.

I would now crave your attention while I bring under your notice a few of the cases in which I saw the patients before pathological processes rendered cure impossible.

Stricture at Splenic Flexure.

CASE I.—This case was sent to me by Dr. Murphy, of Skerries. She had had severe abdominal pain referred to the region of the umbilicus, and for some days there had been no passage of fæces or flatus. She reached St. Vincent's in a state of collapse, and on examination I found the abdomen tense and distended; quick, feeble pulse; tongue dark and dry, and indeed altogether looking as unfit for operation as possible. Assisted by Mr. Tobin, and in the presence of Dr. Murphy, I opened the abdomen in the middle line, and made a digital examination, when I found a dense nodule at the splenic flexure of the colon, and engaging the entire circumference of the bowel, and infiltrating the great omentum. I fixed a Paul's L-shaped tube in the transverse colon, supported it with glass rods on the abdominal wall, dressed the wound, and in a very few minutes after her admission she was in bed. On the sixth day the tube came away, leaving a free opening for fæcal discharge.

This is a procedure of great value in cases of collapse, and however prostrated a patient may be he can be subjected to it without much risk; and when it is necessary, as in old people with irremovable strictures, it is less likely to prove fatal than either lumbar or abdominal colotomy performed by any of the other methods.

It has advantages—

(a.) It is very rapid.

(b.) It ensures close and accurate approximation of the intestine to the abdominal wall.

(c.) The L-shaped tube, being connected with a long rubber tube, discharges the contents of the intestine into a vessel under the bed, and not into the dressings, which are therefore unsoiled.

(d.) Healing is rapid as the wound is unirritated by the discharge of fæces.

The one disadvantage of this method is that there is no spur formed to prevent the passage of fæces downwards when we desire to make a permanent opening.

Intussusception.

CASE II.—This case was sent to me by Dr. Power, of Kildare, who deserves great credit for his early recognition of the cause of obstruction, and his promptitude in dealing with the matter.

The child, thirteen months old, was brought to St. Vincent's

Hospital about ten p.m. I happened to be the guest of Dr. Patteson that evening, and, fortunately for me and the child, Dr. Horne was near me. On learning that an operation was necessary, I asked Dr. Horne to accompany me, and at 11 p.m. we saw the child together. I found he had phimosis, which prevented evacuation of the bladder, which was distended. To the left of that viscus, and extending to the left of the umbilicus, we discovered a small ovoid mass, movable and semi-elastic. The napkins were stained with blood and mucus.

Before performing laparotomy I carefully circumcised the child, and emptied the bladder, which contained a considerable amount of urine. After thorough disinfection I made an incision from umbilicus to pubes. I spread warm sterilised towels all round the wound, and allowed the small intestines to protrude freely. This gave me plenty of room to manipulate the seat of invagination, which proved to be in the left ilio-lumbar region. Inversion had taken place at the ileo-cæcal valve. The first thing felt on introducing the fingers into the abdomen was a dense ring to the left and below the umbilicus, and from this downwards into the left iliac fossa; and over left side of true pelvis a firm mass could be felt, as large as a child's arm, and extending well into the true pelvis. This mass was dark in colour. The ring at upper part was grey, but shiny, showing that as yet the peritoneum was safe. Fearing that traction on the gut would endanger the serous coat, I passed my left hand well down into the pelvis, and compressed the tumour so as to free it as much as possible of blood. Then slight traction, aided by compression from below, caused a gradual disinvagination. When completely freed, we found the intussuscepted part œdematous and purple, but still glossy. While supported by warm sterilised towels I irrigated the bowels with boiled saline solution, under the influence of which the dark colour gradually disappeared, and peristalsis commenced. The intestines were now replaced in the abdomen, and the wound closed by a single row of deep sutures and intermediate skin sutures.

On the fifth day I removed one of the deep sutures, which seemed to be cutting through. On the seventh I removed the superficial sutures, and another of the deep ones, and was proceeding to complete the removal of the others when the omentum and a mass of small intestines bulged through the wound. This was a very awkward accident, but—thanks to the aseptic condition of the surgical department in which this case was—I was enabled without infection to return the intestines after irrigating them with boiled saline solution.

I now secured the edges of the peritoneum by a continuous

suture. A continuous line of musculo-cutaneous sutures completed the closure of the wound. This little mishap did not seem to affect the child in the least, and on the 10th day after re-suture the child left the hospital for the country in fine health. I have since heard from Dr. Power that the child is stronger than he has ever been. This I presume is due to the circumcision, as, no doubt, the phimosis caused such straining that it interfered with the child's nutrition, as well as being the direct cause of the intussusception.

Constriction by Band.

CASE III.—On January 17th, 1896, I was called to Dundalk to meet Drs. Kearney, Flood and Sellars in the case of Miss B., aged four years, who was suffering from intestinal obstruction. I made a rectal examination under chloroform and found the pelvis filled with a firm mass of small intestines. There was no trace of intussusception. The abdomen was tympanitic, but the liver dulness was present.

There was also an area of dulness and hardness below and to the right of the umbilicus.

No movements of the intestines were to be felt through the abdominal wall. The child was very restless, and the pain was paroxysmal in character. There had been no motion from the bowels since the 12th, although she had had calomel and other laxatives, as well as copious enemata.

I decided to operate at once, and as I came provided with the sterilising apparatus, containing gauze, sponges, dressings, towels, &c., I had only to boil the instruments in soda solution and have the child rendered as aseptic as possible by washing with soap and water, then applying 1 in 500 corrosive sublimate solution.

Operation—I made an incision two inches in length between umbilicus and pubes, and passed my index and middle fingers towards the ileo-cæcal part of the bowel. Finding that there was no invagination I proceeded to search carefully for the seat of obstruction, following the colon upwards. As my fingers were turning across through the abdomen, about the level of the umbilicus, they encountered a hard mass near the middle line, the intestine near being tense. By increasing the incision upwards I was enabled to turn out the omentum, and bring the small intestines into view, when I found several coils, dark purple in colour, and greatly enlarged. The enlargement was due to two causes—œdema succeeding vascular engorgement and distension with gas.

There was very little liquid or solid contents. The dark coils of intestines were turned out of the abdomen into warm sterilised towels, and on examining the nodule above referred to I found a dense band passing from it round the small intestine, and joining the great omentum on its posterior aspect.

Through the ring formed by the mesentery behind, the colon and meso-colon above, and the omentum and band below and in front, nearly all the small intestines had passed. The constriction by this band and the torsion of the mesentery combined to produce great hyperæmia; œdema and paresis followed.

The band was firm and very vascular; hence I applied a ligature at each end before its removal. The nodule I did not interfere with, as it was so close to the mesenteric border that interference with the blood supply to a section of the gut might follow its resection. After unfolding the intestine, and having the coils spread out on towels boiled in saline solution, I kept up irrigation with the same fluid at a temperature of 105° F., until peristalsis commenced and the colour of the bowel improved; then returning the intestines into the abdomen I closed the wound with stout silk sutures.

The after-history of the case was uneventful, the child making a complete recovery. I saw her during the summer, and she was the picture of health; and in the best of spirits.

Septic Peritonitis.

CASE IV.—The next case was brought to me from Skerries, and I do but justice when I commend the strength of character of his attendant, Dr. Murphy, who had the courage to bring him to hospital even in a moribund condition. For five days he had had high temperature, vomiting and abdominal tenderness, and he was gradually sinking, when, owing to the difficulty of carrying out an operation in his home, Dr. Murphy decided on removing him to St. Vincent's. When I saw him his aspect was bad, his face being pinched, blue, and bathed in a cold perspiration. He was almost unconscious, with a weak, irregular pulse, so rapid that it could not be properly reckoned. His temperature was 96·5°, breathing rapid and shallow. Abdomen distended and generally resonant, except to right of umbilicus, where a dull area, about the size of the palm of the hand, existed. Great blue patches covered the abdomen, the colour not disappearing on pressure. Liver and splenic dulness present.

On examining the rectum I found the small intestines filling the pelvis and very tense; bladder and rectum empty. Pressure on

coils of intestines elicited evidences of pain, and feeling that the trouble existed in the ileo-cæcal region I made an incision between umbilicus and pubes. During section of the abdominal wall only very dark blood and then an oily serum was discharged. The sub-peritoneal veins were found thrombosed, and the great omentum, which was of enormous size, was a greyish black, a mixture of fatty nodules and enlarged veins. I fancied I had discovered the cause of obstruction at the hepatic flexure of colon, but on pressure the hard mass felt there pitted, showing it to be faeces passing down along colon. I explored the cæcal region and examined the appendix. When passing my finger from the latter along the pelvic brim I felt a resisting coil of bowel and exposed it, to find that it was dark purple in colour. This was a guide to the seat of trouble. Pushing the omentum and colon up I brought the dark coils of the small intestines through into warm sterilised towels. I continued to withdraw the gut, following it upwards until I reached a part almost normal in colour. The same course was followed with the descending part. The dark colour ended one inch from the ileo-cæcal junction, which, together with the cæcum and appendix, was normal. All this time fluid, the colour of tawny port, was running from the wound and welling up from the pelvis, from which the deeply coloured intestines had been drawn. On examining the bowel more closely patches of grey were found scattered over it, but as the serous coat had not become roughened we decided that re-section was not demanded. The appearance was such as one would expect to find in enteric fever; so having satisfied myself that this enteritis and the peritonitis evidenced by the effusion in the abdomen were the cause of the serious symptoms, I restored the vitality of the extruded bowel by irrigating with boiled saline solution at a temperature of 102° F., and later 105°. Peristalsis commenced after gentle manipulation of the gut, and I now washed out the abdomen with warm sterile water, and returned the intestines. I now made a small opening above the pubes, passed through this a stout glass drainage tube into the recto-vesical pouch, filled the abdomen with warm neutral-saline solution, and closed the entire abdominal wound.

During the early stages of the operation it seemed as if the patient could not survive, but soon after the hot water was introduced reaction set in.

(To be continued.)

ART. XVI.—*A Case of Diabetes Insipidus.*^a By JOHN J. BURGESS, F.R.C.S.I.

IN bringing under your notice a case of this disease, I do so with the reluctance of one who has nothing to add to our knowledge of its ætiology, or treatment, and merely strive to justify a short and unimportant paper, by submitting it in order to obtain the views of the Academy on a subject which has never been before this Section, of a comparatively rare morbid condition of which the pathology is undetermined, the prognosis unknown, and the treatment empirical.

CASE.—Julia B., aged fifteen, somewhat stunted in growth; four feet eight inches in height; weight 77 pounds; rather anæmic, with yellowish discoloration of skin, which is dry with tendency to desquamation; menses not appeared yet; has always enjoyed good health, except from the effect of a fall on the back of her head four years since; and a feverish sickness, called by her medical attendant gastric fever, some two years ago. The injury caused by the fall made her unconscious for a short time, but was otherwise unattended by cerebral symptoms. When she recovered from the fever two years since it was noticed she drank large quantities of cold water—in fact, was consumed by a ravenous thirst; when the parents refused her enough to satisfy her, on the ground it might do her harm, she would drink water out of basins that had been used for washing purposes, butter-milk, porter—in fact, any ordinary fluid, short of urine, she could have access to. She was, in addition, passing large quantities of the latter secretion, which flowed involuntarily when she was asleep.

She came first under my notice for a bronchial attack, when I found out the above condition, in addition to the chest trouble.

She had been getting thinner for some time, although her appetite was normal; had never suffered from scarlatina; her tongue and mouth were dry, with brown fur in the centre of former; bowels constipated; passed fourteen to sixteen pints of clear urine, and drank, according to her own statement, nine pints of fluid daily. The circulatory signs were normal, and with the exception of, at the time, dry râles over her bronchial area, the lungs seemed healthy.

Her nervous system, if we except the polyuria and the asthmatic complication alluded to, presents nothing out of the common. She sleeps well. Her retina, examined by Mr. Montgomery, pre-

^a Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, January 29, 1897.

sented no morbid change. I am indebted to my friend, Professor McWeeney, for a report on the urine to confirm observations made by myself. It is acid, non-albuminous, watery; sp. gr. 1,003; contains abundant chlorides; urea diminished; total daily quantity examined, 14 pints; inosite absent. Her family history is not particularly good; her father and mother are alive and well. One brother has been under my care for aphonia, with ulceration of the glossal surface of his epiglottis, from which he recovered under treatment. She has three sisters, who if not in robust are in good health; on the other hand, two brothers died in infancy from convulsions, and one sister from caries of the spine. There is no history of epilepsy, insanity, or syphilis, on either father's or mother's side; the members of this family give me the impression that although at present not suffering from acquired or hereditary disease, they yet are possessed of what one might call a delicate constitution.

She presents neither the increased flow of saliva noticed by Kütz, nor the excessive craving for food alluded to in Trousseau's cases.

The treatment adopted was, first of all, purgatives by reason of the constipation. Afterwards valerian, ergot, belladonna, nitric acid, and other remedies advocated by zealous believers in their efficiency, one after another, for a period extending over 18 months, without any permanent amelioration of the polyuria.

The one form of treatment which I found gave any improvement was the employment of an occasional dose of calomel, which appeared to diminish for some days the diuresis, thus agreeing with Golding Bird (in his article on the subject published in 1849), who claims success by the use of purgatives.

Before the discovery of sugar in the urine by Thomas Willis, 1670, all cases of excessive diuresis were included in the common term diabetes; even afterwards, this sugarless form of polyuria was not noticed until the end of the 18th century, when Cullen made the division into true and false diabetes,

Robert Willis, in 1822, divided this disease into three forms, taking the amount of urea passed as his standard:—

1. When the urea was increased with the watery part—
Azoturia.
2. When the urea was decreased below the normal amount for 24 hours—Anozoturia.

3. When the watery part was increased, the urea voided being normal in amount—Polyuria.

Vogel divided it into—

Hydruria—When the urea was normal or sub-normal with excessive urination.

Diabetes insipidus—When the urea was increased.

These distinctions have no longer a practical recognition, since urea may be increased or diminished by so many various factors—food, individual peculiarities, the washing out of the tissues with large quantities of imbibed fluid—that it would be unscientific to make of them different forms of the one disease, but rather to regard them as diurnal variations in the leading symptom. The age at which this disease appears is, according to the statistics of Roberts, Strauss, Van der Heijden, between 20 and 30, and the male sex more susceptible in the proportion of three to one of the female. That it is sometimes hereditary would seem to be proved by the statements of several observers, notably the cases mentioned by Weil of twenty examples of diabetes insipidus, from a total of 91 persons in 4 generations, and the family alluded to by Lacombe, where a mother, three sons, and a daughter, besides the mother's brother and his children, were affected. Hay has also frequently found it associated with family history of phthisis.

Its ætiology has been traced to—

1. Injuries of the skull.
2. Violent muscular efforts.
3. Violent emotions.
4. New formations in the brain.
5. Epilepsy.
6. Chronic diseases of the spinal cord.
7. Drinking cold water when heated.
8. The presence in the blood of a diuretic substance—
Inosite.

The presence of the last was supposed to be pathognomonic of the disease; however, the minute quantity in the excretion, together with the experiments of Strauss and Külz, which showed it could be produced in health by getting persons to drink large quantities of fluid, negatived it as a specific sign, and merely due to the washing out of the tissues by the excessive water.

The diagnosis is from :

Interstitial nephritis.

Diabetes mellitus.

Amyloid kidney.

Pyelitis.

Hydronephrosis.

Hysteria.

In this case there was—(1) Neither sugar nor albumen present on the many occasions on which the urine was examined; (2) there was no wasting disease; (3) no pain or tumour; (4) the persistence of the symptoms and the age of the patient were against hysteria.

I am aware that most so-called cases of diabetes insipidus turn out on careful examination to belong to cirrhotic kidney, but I claim in this that ample time and repeated examination of the urine with the absence of the usual cardio-vascular phenomena entitle me to place this under the above heading beyond any possible doubt.

The pathology has been a difficult matter to determine, on account of the rarity of autopsies. The result of those obtained throw little light—some being negative, while a few point to the results of the physiological experiments of Bernard and Eckhardt, that lesions of the 4th ventricle or in the path of its afferent nerves produce polyuria.

Amongst the latter we find—

1. Tumour of the cerebellum.

2. Exostosis.

3. Tubercular disease.

4. Diseases of the sympathetic system (Eckhardt and Peyrane).

5. Diseases of the solar plexus (Dickinson).

Likewise carcinoma of the pineal gland (Minot).

Traumatisms of the hepatic region (Trousseau and Piorry).

The prognosis varies with different observers. Senator reports a case which lasted fifty years. In Weil's cases certain members of an infected family lived to 83, 74, 67, 76. Others have experience of cases which ceased abruptly after an intercurrent attack of one of the specific fevers. On the other hand, Neuffer reports a case which was fatal in four months from the inception of the polyuria.

The treatment, as one would expect from the uncertain nature of the disease, comprises innumerable drugs with a consensus of opinion in favour of valerian, ergot, and galvanisation of the neck. The conclusions to be arrived at seem to be—not from my own case solely, but on the authority of those who have made the literature of the subject—that the disease is purely functional, and has no destructive tendency on life; that it may be set up by injuries or diseases of the central nervous system, continuing after the acute effects of those have disappeared, in somewhat a similar manner to which pyrexia continues after the subsidence of one of the specific fevers, and that treatment, in most cases, is useless, unless the cause be peripheral and under our control, as in the case recorded by Jacobi where the polyuria ceased after the expulsion of a *Tænia medio-canellata*.

ART. XVII.—*A Case of Enormous Enlargement of the Spleen : Complete Recovery.* By MONTAGU L. GRIFFIN, M.B., B.Ch. Univ. Dubl., Plymouth.

THE following case of gigantic enlargement of the spleen, followed by complete recovery under treatment by arsenic, is interesting, especially as it was uncomplicated by any leukæmic condition:—

CASE.—THOS. D., age forty-two, brush-maker.

Family History—Good so far as he knows.

History—Fifteen years ago had typhoid fever, and was very bad. When he recovered and returned to his work he was troubled with “drawing pains” in his left side under the lower ribs, and used to think it was “the wind in the stomach.” Six months afterwards he began to get stout in the abdomen, and used to suffer from indigestion. The doctor who attended him used to think “he was getting too fat;” having complained to him of “a loaded feeling across his stomach,” he was advised to wear an abdominal belt for support, and he has continued to do so ever since. The first belt he had to cease wearing *five years* ago as it had become too small for him. The present one he had then made extra large, but this also has become too small; the buckles are now in the last hole; the belt itself does not meet across the abdomen, a space of five inches being left between the

unopposed ends. I judge, therefore, that for the last five years his girth has increased at least ten inches. Asked what his girth was prior to the fever, he says he does not know, but that he was "a wonderfully small man around the bowels," was "very wiry and active," and "does not suppose he had a spare ounce of flesh on his bones." He says that "he has never been the same man since the typhoid fever," but that he has managed to get along with his work "without a day's illness since then;" for the last six years, however, when the work of the day is over he feels tired; and latterly, when returning home, having changed his abode, he has to walk up hill, and finds himself exhausted often midway, and has to stop and take breath, and feels giddy and faint. He feels "as if his heart is not working right, and that he cannot draw as long a breath as he used to do." The girth around the waistband of his trousers measures 54 inches; these were made *six months' ago* "a special easy fit," but are now so tight that they have to be left open at the top button, which allows them to gape over an inch. His height is 5 feet 4 inches. He "wants to get rid of these indigestion feelings" if he can. He has "been dieting himself all he can" to avoid getting stout, and it only seems to make him worse; and he "does not think that any doctor can bring down his fat."

In spite of the patient first coming into my consulting room at night, I am struck by his pallor. His skin looks like pale yellow ivory. In so short a man the prominence of the abdomen is so great as to approach the comic element found in *Vanity Fair* cartoons. Feeling his arms and legs they are very muscular and as hard as an athlete's. Buccal and conjunctival membranes are anæmic; tongue is large, pale and flabby, but not coated. I asked him to strip, and put him on the couch in the dorsal decubitus. On inspection, the abdomen presented an appearance unusual in obesity. It did not fall down over each side of the hips, but stood up tense, prominent, and egg-shaped immediately from beneath the ribs. The latter I find are visible all over the thorax, and though his neck is short it is not a fat one, and he tells me that his collars are much looser than they were five years ago; he says "he cannot understand why all his fat has gone to his bowels." It appears that if anything there is a want of adipose tissue all over his body.

Palpation.—This is startling. I find that nearly two-thirds of the abdominal cavity is occupied by a tumour such as I have never before seen or felt outside those of ovarian growth. It emerges from the border of the left lower ribs and ensiform cartilage, and

extends downwards into the left iliac fossa, where the lower margin cannot be felt. Its inner margin sweeps in a gentle curve about one and a half inch to the right of the umbilicus (which is nearly as prominent as in that of a seven months' pregnancy); from thence it curves inwards again to about half an inch outside the left pubic spine, and is lost beneath Poupart's ligament. On turning him into the prone position, a swelling is visible in the left lumbar region, beneath the border of the left lower rib, and ends in a convex margin looking downwards, the tip of which almost reaches the posterior superior iliac crest. This tumour is soft, and feels more pliable than that on the front of the abdomen. The whole abdominal contents are now seen bulging the left flank, and it is evident that the contour of both sides of the abdomen do not correspond, the main prominence being in the left hemisphere. What I estimate to be the lower margin of the right lobe of the liver is to be felt two and a half inches below the ninth costo-cartilage junction. The remaining portions of the abdomen are fairly soft on deep palpation, but the walls of the abdomen are very tense. *Percussion* elicits femoral dullness all over the tumour, and over the area in which the liver is felt. In the upper right hand corner of the umbilical region a note resembling that of the stomach is elicited, but it is difficult to determine this, as on swallowing fluid the splash is not evident through the stethoscope.

Thorax—Respirations are of the thoracic type; the abdominal walls move only a little, even in forced inspiration, and that only over the right side of the abdomen. The sterno-mastoids stand out strongly, and the upper part of the thorax is somewhat barrel-shaped. There is no emphysema. The heart impulse is felt imperfectly in the normal position, but a strong thrill is given to the rib above.

Percussion of the thorax gives complete dullness, extending from the left 5th interspace to the margins of the lower ribs where it blends with that of the tumour in the abdomen, and likewise behind, from the level of the 11th dorsal vertebra downwards. No stomach note of resonance is to be elicited anywhere in the thoracic region.

Heart sounds—Normal. No hæmic murmurs are to be heard.

Lungs—Breath sounds completely annulled from level of left nipple to that of 11th dorsal vertebra behind.

Urine—Normal. Sp. gr. 1,015. No enlarged glands anywhere.

Blood—Examined. No increase in the number of white blood

corpuscles can be detected. Neither megalocytes nor poikilocytes present.

Patient wants my opinion and says that "from my face when I felt his bowels he is sure that I have found something very bad." I tell him that at present I can find no fatal symptom in his case, and that I hope that in a month's time treatment will prove that what I now believe to be the case is correct—viz., that his spleen is enormously enlarged, and that his breathlessness, poverty of blood, and size of his abdomen are due to this; but that he must cease from work for a week at least.

R. Liq. arsenicalis, ℥ v. Acid nitro hydrochlor. dil., ℥ v.

Infusi gentianæ co. ad ʒi ter in die ex aq. ʒi p. cib.

Diet—To avoid potatoes and pastry, of both of which he is very fond. (He has practically been a teetotaler since he was 21, and never exceeded one glass of beer in the day).

Next day his wife visits me, wishing to know what is wrong with her husband, saying that he is in a dreadful state of depression, as he feels sure that I have found a cancer in him, and that I do not want to tell him. I tell her that he has an enormous tumour in the abdomen, so great that if it had been of a cancerous nature he could not have lived so long, but that it may be another disease than cancer, which may prove fatal if it does not yield to treatment. She then asks me to have a consultation to ease her mind, to which I agree.

Seen with Dr. Richard Wagner on the following day. He agrees in giving the case the benefit of a trial on arsenic, suggesting the addition of five grains of ferri and ammon. citrat. to the mixture.

The subsequent history of the case is one of steady and uninterrupted recovery under a gradual increase of arsenic up to first physiological signs, and remissions to the minimum dose, again increasing, and so on. *Twenty-one months* after the commencement of treatment the splenic area of dulness is now normal, and nothing can be felt below the ribs. Six weeks after the consultation I sent the patient to Dr. Wagner, with the inferior margin of the tumour to be felt four inches above the pubic spine and one inch above the anterior superior spine, and to be felt distinctly moving downwards on deep inspiration. He has seen the case since and noted further improvement. The patient very quickly began to mend in health, and in two months' time declared himself to be

better than he ever felt since the fever, fifteen years before. His present girth is 12 inches less than when I first examined him; but this gives no estimate of the reduction in the tumour, as he has put on flesh everywhere in a marked degree. The anæmia altogether disappeared by the tenth month of treatment. The area of hepatic dulness became normal as the spleen shrank away from it. I think that its enlargement was only apparent, and due to the displacement of a plastic organ which was squeezed laterally. It has been proved on criminals in France, executed after eating a hearty meal, that the full stomach pressing upon the liver laterally makes the right lobe descend even as much as two inches below the so-called normal position, as proved by the series of frozen models afterwards taken from the victims.

Remarks.—The interest in this case depends on the almost complete absence of symptoms in the face of such physical condition as may well be called stupendous. The judgment shrinks from estimating even the weight of the tumour which this man carried in his abdomen, one may safely say, for years. It rested in his left iliac fossa and was fixed there, whilst it rose so high into his thorax as to displace the heart upwards and to annul the respiratory function of the left segment of his diaphragm. It pressed the liver to the right and the left kidney backwards, so as to make a *visible* tumour in the left lumbar region behind. How it treated the stomach and bowels I am unable to say. Yet the patient comes into the consulting-room complaining of dyspepsia, and only casually alludes to the fact that he has for years been growing too fat. That the anæmia was not excessive was evident from the comparatively slight functional derangements and the blood analysis, together with the fact that so soon as the tumour rose out of the pelvis and became movable his breathlessness ceased. And, finally, it is worthy of note that until the man was stopped working for fourteen days by me he had never missed a five hours' working day for fifteen years.

NOTE.—I regret to say that a note on the count of the relative proportion of white to red blood corpuscles, which

I made during the second month of the treatment of this case, has been lost. But it was remarkable only in that it showed no excess in the number of leucocytes. It is eight months since I wrote the above notes on the case, and to-day (March 19th, 1897) I have examined the patient once more. The area of splenic dulness is normal. The man is in good health, but does not work so hard as before. He still takes the medicine, but with less regularity.

ETHER *v.* CHLOROFORM.

DR. W. S. CALDWELL, in September last, read a valuable paper before the Mississippi Valley Medical Society, which gives his experience, gathered in 40 years' practice, of the superiority of ether as an anæsthetic. Surprised that "at the meeting of the American Association of Railway Surgeons at St. Louis, while the subject of the merits of chloroform and ether were being discussed, a vote was taken as to the preferences of that body for these two drugs, and 105 of those present advocated the use of chloroform, while only 16 were on the side of ether," he addressed over two hundred circulars to surgeons practising in Baltimore, St. Louis, and northward. The result is thus summarised:—"I find my replies as sectional as politics, nearly every advocate of chloroform was west of Buffalo. Chicago was about equally divided between chloroform and ether; the further west I got my replies from, the more generally did the writers use chloroform. . . . St. Louis is three-fourths chloroform. I only sent my circulars to the homœopaths connected with the large colleges and hospitals, and the replies I got were all in favour of ether. New York, Philadelphia, and Boston use ether exclusively, according to the replies sent me, except in a few instances where the surgeon began the anæsthesia with chloroform and then followed it with ether. Of those who have answered my questions, 60 per cent. use ether, 25 per cent. use chloroform, and 15 per cent. use various mixtures of ether and chloroform, mostly the A. C. E. mixture. My correspondents reported 127 deaths from anæsthesia, that they had in their own practice, or known in the practice of others. Of this number, 15 were from ether and 112 from chloroform." The paper, which well repays perusal, was printed in the *Journal of the American Medical Association* for December 19th, 1896.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. London: Sampson Low, Marston & Co., Ltd. Vol. VII. 8vo. Pp. 796. 1896. Vol. VIII. 8vo. Pp. 667. 1897.

CIRCUMSTANCES have led us to fall a little behindhand in noticing the further instalments of this immense work which have been published since our last notice. And so it comes about that two portly volumes lie before us, claiming review.

The first of these to appear was Volume VII., the subject-matter of which is stated to be "Diseases of the Respiratory Organs and Blood, and Functional Sexual Disorders." This partakes rather of the nature of an *olla-podrida*, as our Spanish friends would say, which old Ben Jonson explains as "any incongruous mixture or miscellaneous collection." When we come to study the table of contents, we are still less satisfied to find that the diseases of the respiratory organs treated of in this volume are—"Diseases of the Pleura," "Asthma," "Hay-Fever," "Diseases of the Mediastinum," "Diseases of the Diaphragm." Surely on the threshold of the twentieth century a good deal could be said in favour of classifying both asthma and hay-fever among the "Neuroses" or "Functional Diseases of the Nervous System," while "Diseases of the Thorax" would more appropriately include mediastinal and diaphragmatic lesions than "Diseases of the Respiratory Organs." The diaphragm, of course, is in a sense a "respiratory organ," but so are the intercostal and those other muscles which take an active part in respiration.

After "Diseases of the Blood" comes an excellent mono-

graph on "Rachitis" from the pen of Jules Comby, of Paris. Surely it should have formed part of a volume on "Diseases of Children." "Functional Sexual Disorders" form the closing portion of this badly-arranged volume, and they are made to include the disorders of menstruation, and the "chemical and microscopical examination of the urine." Clearly Dr. James M. French's elaborate article on the last-named subject should have been incorporated with a volume on "Diseases of the Urinary Organs," or, if written too late to appear in it (Vol. I.), it should have been relegated to an Appendix.

Having said so much in the way of adverse criticism, we gladly accord our meed of praise to the majority of the articles which make up this volume. Dr. Herbert B. Whitney, of Denver, has evidently had exceptional opportunities of studying diseases of the pleura, and accordingly he writes on that topic with authority and clearness. Professor Franz Riegel, of Giessen, contributes a good article on Asthma. At page 131, Biermer's physical sign of emphysema is called the "box" or "pillow" tone. The original "Schachtelton" means "bandbox-sound." The author is evidently inclined to adopt Gollasch's theory that Leyden's crystals, found in the sputum of asthma, are crystalline derivatives of the eosinophile cells. This view is supported by Seifert's investigations, which go to show that on histological examination of portions of the nasal tissues from which—after some hours in the moist chamber—numerous crystals were formed, great numbers of eosinophile cells were found; while, conversely, in portions of tissues in which no crystals were formed in the moist chamber, only a few eosinophile cells were present.

A very instructive article on "Hay Fever" is contributed by Dr. E. Fletcher Ingals, of Chicago. He states that there are three essential factors in the ætiology of this malady—first, the neurotic habit; second, local hyperæsthesia; and third, the presence of irritating substances in the atmosphere. The most common exciting cause of the attack is the pollen of "*Ambrosia artemesiæ folia*," known also as Roman wormwood, ragweed, or hogweed, or that of *Solidago odora*, known commonly as golden rod.

The other authors of monographs in this volume are—Dr. Charles W. Allen, of New York, who writes on functional disorders of the male sexual organs; Dr. Jules Comby, of Paris (rachitis); Dr. Charles Greene Cumston, and Dr. Ernest W. Cushing, both of Boston, who contribute a joint article on the disorders of menstruation; Dr. E. Main, of Paris (diseases of the mediastinum and of the diaphragm); and Dr. Alfred Stengel, of Philadelphia, who writes at great length on diseases of the blood. This last contribution is probably the ablest monograph on the subject which has appeared for many years. It is divided into sections on “The Blood,” “Clinical Methods of Examining the Blood,” “Pathological Changes in the Blood”—namely, plethora, oligæmia, hydræmia and anhydræmia, coagulation, lipæmia, melanæmia. Then the author describes such morbid conditions as leucocytosis, hypoleucocytosis, polycythæmia, anæmia, chlorosis, progressive pernicious anæmia (splendidly done), leukæmia (we much prefer Bennett’s term “leucocythæmia”), Hodgkin’s Disease (why is this included among “Blood diseases”?), anæmia infantum pseudoleukæmica, hæmocytolysis, hæmoglobinaemia, paroxysmal hæmoglobinuria, purpura in its various forms, scurvy, and hæmophilia. Dr. Stengel’s monograph occupies nearly 300 pages of the large volume under review, and it will repay a careful study.

The greater part of the eighth volume is devoted to “Diseases of the Digestive Organs,” beginning with the mouth and ending with the peritoneum. The last 150 pages are given up to “Animal Parasites and the Diseases caused by them” (by Medicinalrath J. Ch. Huber, M.D., of Memmingen, Bavaria, author of the *Bibliographie der klinischen Helminthologie*), and a section on the “Treatment of the Diseases caused by Animal Parasites,” written by Dr. James M. French, of Cincinnati, the lecturer on morbid anatomy and demonstrator of pathology in the Medical College of Ohio.

“Diseases of the Mouth” have been clearly handled by Dr. Johann Mikulicz, Professor of Surgery at the University of Breslau, in co-operation with Dr. Werner Kümmel, Privatdocent at the same University. Dr. Reginald H

Fitz, of Boston, Hersey Professor of the Theory and Practice of Physic, Medical Department, Harvard University, contributes an able article on "Diseases of the Œsophagus;" while "Diseases of the Stomach" find an exponent of high reputation in Dr. Max Einhorn, of New York. His exhaustive treatise—for such it is—runs to some 250 pages, and is illustrated by 177 bibliographical references.

Dr. Hans Leo, Ph.D., Professor of Internal Medicine at the University of Bonn, writes on "Diseases of the Pancreas." Dr. B. Farquhar Curtis, Professor of Clinical Surgery in the New York Post-Graduate School, is the author of a monograph on "Diseases of the Peritoneum," which includes a full account of "Appendicitis" under the sub-heading "Special Forms of Peritonitis."

This brief analysis will suffice to show how extremely interesting are the contents of the eighth volume of "Twentieth Century Practice."

Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. BARRETT, M.B., M.R.C.S.E., L.D.S.E. Third Edition. Illustrated. London: H. K. Lewis. 1897.

MR. BARRETT has, we think, succeeded well in the task he has set himself—that of preparing a small work on Dental Surgery suited to the requirements of the medical practitioner and student. Consisting of 152 pages, the book is divided into thirteen chapters; of these the first three are given to the description of the several teeth and of the eruption-ages of each dentition. Irregularities are next considered, following which is found a *résumé* on Dental Caries, in which the author has managed to include a large amount of up-to-date information in quite a small compass. Several excellent illustrations, here as elsewhere, considerably enhance the context. Toothache—its varieties—the causes and treatment of each sort are fully gone into, perhaps more in detail than would be necessary for a medical practitioner's wants. Some information is next given concerning artificial work, and we are glad the author is not very favourable to the system of "bridge-

work," so-called. Under "Anæsthetics," a suggestion as to the substitution of chloroform in place of N_2O gas, in the case of "nervous hysterical girls" who do not take the latter well, is, we think, in the face of so much evidence as to the danger of chloroform, not a happy one, especially as ether is so much safer, though more unpleasant. A description of the proper forceps for extraction of each tooth, and mode of using same, must prove a readable and instructive few pages to him who peruses them. The small volume has been well got up, and is really written in an interesting and simple style. Already two editions have been exhausted.

Refraction of the Eye: its Diagnosis and the Correction of its Errors. By A. STANFORD MORTON, F.R.C.S. Sixth Edition. London: H. K. Lewis. 1897. Small 8vo. Pp. 74.

THIS being the sixth edition of Mr. Morton's excellent little book, we congratulate him upon its well-merited success.

Without materially altering the subject-matter of the book, the issue of a new edition has afforded the author an opportunity of revising and amplifying some points in the work which appeared to require further elucidation. We have always considered this a most valuable contribution to ophthalmic literature, and a great help to the student of refraction.

Intestinal Intoxication in Infants. By F. W. FORBES ROSS, M.D., Clinical Assistant, Children's Hospital, Paddington Green, London. Rebman Publishing Co. 1897.

THIS book has certainly been published at the right time, and no matter what we have to say to the way in which Dr. Ross has performed his self-imposed task, we must congratulate him on his attempt to elucidate these very fatal conditions. The enormous infantile mortality is largely recruited from the ranks of diarrhoea, and it is a most perplexing study. This book will perhaps only be opened by

those who are specially interested in the subject. We think those physicians who, from the nature of their surrounding practice, or their study of the peculiar diseases of children, are devoting their attention to it, will gain some information from a perusal of it. We have much praise to give to it, but at the same time we take exception to some of Dr. Forbes Ross's views.

Children are very different from adults, and the opening chapter reviews a few of these disparities. Dr. Ross, however, only touches the fringe of the subject. We cannot agree with Dr. Forbes Ross in his views of cholera infantum. He strongly holds that it is a "heat stroke." Now we know that it is almost confined to very hot weather in summer and autumn, but there appears to be little doubt that it is infective in its nature.

There are some most excellent thoughts in Chapter VII., on Evacuation of the Bowels, which everyone would benefit by reading. There is throughout the book a large amount of deep and obscure hazy theory, here and there illumined by some brilliant spots of true light. The publishers have drawn our attention to Chapter XI. as being useful to Public Health bodies, especially with reference to the milk trade. It is truly most excellent, and should attract the attention of medical officers of health. This chapter might well be developed into a pamphlet by itself on the milk-feeding of infants. Antiseptic drugs are well reviewed. There are some errors in proof correcting, such as "sceptic" for "septic," "pollicles" for "follicles," &c., &c.

The arrangement of the book is bad; in fact, there is no arrangement at all. It is a loose collection of some extremely valuable facts and practical points of the greatest interest, but they are huddled together with a great deal of obscure theory. We most strongly deprecate this kind of writing; Medicine as a profession is much damaged by it, and our world of to-day is flooded with it. It truly is a hindrance to our progress, and we hope that in the future it may become less. As an instance we would quote *one sentence* from Chapter XIV., p. 80:—

"Granting any determining cause as chill, etc., the influence played by the action of the chemico-mechanical irritants, purely

toxic irritants or ptomaines and the simply mechanical irritation of undigested food—in the first place leading to vascular engorgement and increased secretion of mucus, this mucus undergoing acid fermentative change, and the occurrence of swelling with tenderness, and with an increased transmission of sensory reflexes which in their turn react upon the vessels promoting further vasomotor relaxation, with consequent augmented sensibility, now calling forth motor action of the bowel, then muscular contraction pressing on already inflamed and tender mucous membrane, bringing it in closer contact with solid food particles, coupled with the intestinal pressure of pent-up gases—soon leads finally to almost complete vasomotor inhibition, and produces systemic results in the form of derangement of temperature and cardiac action, with inhibition of bile secretion and further consequent fermentative irritation, followed now perhaps by active vaso-dilator reflexes, and an active loss now sets in from the capillaries of the mucosa direct, thus producing frequent watery evacuations of the bowel, and an active and alarming condition known as infantile cholera (secondary) is fully set up.”

The man who confidently knows that all these changes actually take place has not yet been born!

But how then can Dr. Forbes Ross say (on page 90), after the foregoing elaborate announcement, that—“Properly speaking, true cholera infantum is really a heat stroke.”

Dr. Ross has, however, done some good work in bringing together many important facts.

If there is another edition we hope more system will be introduced, and all hazy theories totally expunged.

The index is very full.

Handbook of the Clinical Research Association, Limited. With the Annual Report for 1896. London: Ash & Co. 1897. Pp. 72.

THE success of the Clinical Research Association is assured, seeing that during an existence of little more than two years the Association has secured a membership exceeding 2,400. During the past twelve months 7,227 specimens were submitted for examination, and the handbook contains a short report on the work done in each department,

while its usefulness as a book of reference is established by the directions it contains as to the preparation, preservation, and transit of specimens.

The fees charged by the Association are fixed as low as is compatible with reliable work by first-class experts, and since the last Report various new features have been included within the scope of the Association's work. Among these is the addition of a complete department for Medical Photography, including the Röntgen Ray work; the supply of typical microscopical slides for teaching purposes; and the invention of a portable sterile swab for the obtaining and transit of material from the throats of patients suspected to be suffering from diphtheria.

The Reports of the Chemical, Bacteriological, and Histological Departments for the year 1896 are full of interesting matter, and bear eloquent testimony to the popularity and usefulness of the Association. The list of members of the Association includes some of the best known names in the three divisions of the Kingdom.

Practical Hints on District Nursing. By AMY HUGHES, Superintendent of Nurses, Bolton Union Workhouse; late Superintendent of the Central Training Home, Queen Victoria's Jubilee Institute for Nurses for the Sick Poor. Burdett Series, No. 1. London: The Scientific Press, Limited. 1897. Pp. 99.

THIS little book of about 100 pages is excellent from beginning to end, thoroughly practical, and giving a clear exposition of the duties which devolve upon a district nurse and of the wholesome influence she may, with tact, sympathy, and common sense, exercise over her patients and their friends, bringing sunshine, cleanliness, and fresh air into the most miserable dwellings, and doing all this with the courtesy and kindness so much appreciated and reciprocated by the poor themselves.

Miss Hughes claims for District Nursing that it is fast becoming a "power in the land," and those who read her book will be convinced that her aim is not too high. We trust that an impetus may be given to the work this year

by a large share of the thankofferings of her Majesty's loyal subjects for her long and prosperous reign being devoted to the cause so dear to her heart—the skilful nursing of the sick poor in their own homes.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Vol. I. A—Azzurri. Washington: Government Printing Office. 1896. Quarto. Pp. [14] + 828.

WE miss the well-known name of “John S. Billings” from the letter presenting this volume to General George M. Sternberg, Surgeon-General, U. S. Army. That letter is signed “D. L. Huntington, Deputy Surgeon-General and Lieut.-Colonel, U. S. Army,” on whose shoulders the mantle of Dr. Billings seems indeed to have fallen.

The first volume of the second series of the world-renowned “Index-Catalogue” includes 6,346 author-titles, representing 6,127 volumes and 6,327 pamphlets. It also contains 7,884 subject-titles of separate books and pamphlets, and 30,384 titles of articles in periodicals. There is also a long “first addition” to the alphabetical list of abbreviations of titles of medical periodicals, which was published in the sixteenth volume of the first series of the Index-Catalogue.

The general plan of the undertaking remains unaltered.

We wish Deputy Surgeon-General Huntington every success in his herculean task.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P. Part VIII. London: The Rebman Publishing-Company. 1897.

THE eighth part of the Pictorial Atlas includes four photolithochromes, with the accompanying descriptive letterpress. The subjects illustrated are—Epithelioma arising from a lupus scar, erythema iris, lichen planus of Wilson of the papulo-erythematous variety, and “Biskra button.” M. Lucien Jacquet reports the first and last of these cases.

Both are in their own way horrible. In the first a disfiguring and hideous epithelioma, grafted on a lupus scar, occupies the whole of the right cheek, extending from the centre of the cheek forwards to the nose and mouth, upwards to the eye, and backwards to the ear. The neoplasm spread rapidly, and the poor woman died on June 11, 1886.

Commenting on the case of Biskra button, M. Jacquet observes that it is singularly like the "Aleppo button," and, indeed, both are strikingly like all the other "buttons" or "boils" which come from the East. He recommends that Mons. Besnier's comprehensive term—"endemic oriental boil," or "endemic boil of hot countries"—should be adopted instead of the more puzzling local appellations for the malady.

Probably the most interesting illustration in the present part of the Atlas is that of lichen planus (Wilson) from a model by Baretta in the Saint Louis Hospital Museum, made in 1885, from a patient under the care of Mons. Hallopeau. The patient was a widow, aged 55, who had suffered for two years when admitted to the Saint Louis Hospital.

Herbal Simples approved for Modern Uses of Cure. By W. T. FERNIE, M.D.; Author of "Botanical Outlines," &c., &c. Second Edition. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.; Hirschfeld Bros., 82 High Holborn. 1897. 8vo. Pp. 652.

WHEN noticing the first edition of this charming book in our number for January, 1896 (Vol. CI., No. 289, Third Series), we expressed the hope that "Herbal Simples" might see many editions. That hope seems likely to be realised, for the second edition now lies before us, considerably enlarged and, we venture to add, improved in most respects. There are, however, several printers' errors which mar the effect of many of the Latin quotations in its pages, the most frequent being the substitution of the diphthong "æ" for "œ," even in the proper name Æneas (page 320). Greek words also are printed in English letters, and are sometimes misspelt, as "riza," "root," on page 321.

Were we inclined to be critical, we should take exception

to the very fanciful derivations of botanical names which abound—for example, *Quercus*, an oak, which “is so named from the Celtic ‘quer,’ beautiful; and ‘cuez,’ a tree” (page 17). The word “officinal” is everywhere used in mistake for “official,” and the pages of the work are widely leavened with homœopathic lore and indeed doctrine. But leaving these points aside, the book will be found delightful reading. It brings one back to the days of empiric medicine, when analysis, and still less synthesis, had not been thought of.

There is a strange statement at page 577 to the effect that turpentine “excites the secretion of urine, *to which it imparts a violet hue.*” This is quite new to us, but we are well aware that turpentine readily causes the urine to give off an odour of violets, and this too even when it is applied externally, as in an epithem or fomentation.

A silken thread of poetry runs through Dr. Fernie’s book, and many an old wives’ tale is once more told in its pages.

Appropriately enough, the work is brought to a close with Robert Herrick’s beautiful lines, written in 1650:—

“Farewell, sweet flowers!—whose time is fitly spent
For all delights of colour, and of scent;
And after death for cures!
May I my days with equal uses fill,
Living to work some benefits; and still
Having an end like yours!”

GAZETTE MÉDICALE DE PARIS.

Our valued contemporary began a new series with the new year. In spite of its name, which it retains, it will be henceforward a surgical journal, devoted chiefly to operative surgery. Dr. Pierre Sebileau retains his position as editor-in-chief.

THOUGHT-WEIGHING.

PROFESSOR MOSSO, an Italian physiologist, has invented a thought-weighing machine, consisting of delicate balances so contrived that they weigh the varying amount of blood in the brain. The activity of the brain is in direct proportion to the amount of blood therein. According to a local newspaper report, the machine is so delicately constructed that it readily detects the difference in the exertion required to read Greek above that necessary to read Latin.—*Med. Rec.*

PART III.

SPECIAL REPORTS.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.

By WALTER G. SMITH, M.D.; Ex-President of the Royal College of Physicians of Ireland; Professor of Materia Medica, School of Physic in Ireland, Trin. Coll., Dubl.; Physician-in-Ordinary to His Excellency the Lord Lieutenant; Physician to Sir P. Dun's Hospital.

THE field of therapeutics has, for the past year, been largely occupied by discussion of the various forms of treatment with antitoxins of different kinds. But this is a wide question into which we have not space here to enter. Suffice it to say that for diphtheria at least the evidence goes to show that, by the new treatment, the mortality of this disease has been sensibly lessened, and some of its terrors abated, so far at any rate as obstruction in the larynx and trachea is concerned.

Aïrol is the odd name given by Dr. F. Lüdy, of Basle, Germany, to an oxy-iodogallate of bismuth prepared by a firm in Basle as another substitute for iodoform. Chemically it is bismuth subgallate (*Dermatol*) in which one of the hydroxyl radicles is replaced by iodine. It is a fine greyish green, odourless and tasteless powder, unaffected by sunlight, but gradually decomposed by moisture to a more basic red powder. It forms a fairly stable emulsion with glycerine and water. It has been used successfully in the powder form and as an ointment with vaseline, dehydrated lard or cocoa butter, in ulcers of the leg principally. Dr. J. Fahm, of Basle, reports excellent results not only externally in burns and varicose ulcers, but internally in a twelve

year old girl suffering from tubercular enteritis, administered in doses of 200 milligrammes (about 3 grains) twice in twenty-four hours.—(Squibbs' *Ephemeris*).

Dr. Haegler also speaks well of airol as conforming to these four conditions which an efficient substitute for iodoform should possess:—

- (1.) It is less poisonous than iodoform.
- (2.) It is inodorous.
- (3.) It does not irritate the skin.
- (4.) It should yield sufficiently readily a proper amount of iodine, or equivalent active antiseptic.

Airol contains 44·5 per cent. Bi_2O_3 , and 24·8 per cent. iodine.

Time must show whether it is come to stay, or whether, like so many other novelties, it appears but to flit across the therapeutical horizon and vanish as quickly as a falling star.—(Reprint from *Beiträge z. klin. Chir.*, xv.).

Europhen has not been quite lost sight of. Kopp (*Aertztlicher Central. Anzeiger*, September 20th, 1895) has employed this remedy in 19 cases of soft sore, 9 of inguinal bubo, and 7 of mucous tubercles in the genito-crural and anal regions. The average time required for healing was seventeen days, about the same as with iodoform. Europhen was also found very useful in two buboes which had burst and become converted by infection into large venereal ulcers. These healed in twenty days under the use of europhen 1 in 3, with boric acid. A similar mixture, of the strength of 1 in 6, was employed with success in the treatment of seven other simple buboes after scraping. Europhen-boric powder 1 in 4 aided the healing of mucous tubercles, the patient being under mercurial treatment. The condylomata skinned over in three to ten days. Kopp considers that europhen is less irritating than any other odourless antiseptic powder; that it is specially indicated in the treatment of venereal ulcers after scraping; and that it is useful, but not irreplaceable, in the treatment of other specific and non-specific ulcerations.—(*Brit. Med. Jour., Epit.*, Jan., 1896).

Saalfeld also prefers europhen to iodoform, and finds that it arrests hæmorrhage.

Gelanthum is a watery varnish, introduced by Unna

(*Brit. Med. Jour.*, Oct. 17th, 1896). It represents a combination of tragacanth and gelatin, and constitutes a cooling protective application, which can be readily medicated with other drugs, fatty or otherwise. It is more convenient to use than zinc-gelatin, and Unna thinks it will be found especially adapted for cases of extensive eczema and prurigo, with thickened epidermis.—(*Therap. Monatsh.*, Oct., 1896).

Argonin, a combination of silver with casein, is advocated in the treatment of gonorrhœa. The favourable opinion pronounced upon this new remedy by foreign writers is confirmed by Mr. Ernest Lane (*Year Book of Treatment*, 1897, p. 278), who is perfectly satisfied with the results obtained by him in a considerable number of cases of acute gonorrhœa. It is, unfortunately, an expensive article. Argonin is a white powder, and 15 parts contain as much silver as one part of silver nitrate. Jadassohn was the first to make use of it, and Swinburne, Lewin, Bruder, and others testify to its value.

It may be employed, in aqueous solution (obtained by careful heating over a water bath), in a strength of $1\frac{1}{2}$ to 2 per cent. This solution is injected five times daily, the fluid being retained in the urethra for five minutes. No inflammatory reaction ensues, the pain is trifling, and it speedily destroys the gonococci.

Sulphur.—Dr. Miller, Surgeon to the Edinburgh Royal Infirmary, draws attention to the value of sulphur as a local application to weak and indolent ulcers. He was incited to try it by reading a lecture by Mr. Arbuthnot Lane on the "Treatment of Tubercular Disease of Joints" (*Clin. Journal*, 4th July, 1894, and *Lancet*, 7th April, 1894), and confirms Mr. Lane's conclusions:—

"1. Sulphur appears to exert no deleterious influence on the health of the patient.

"2. It gives rise to products which are powerfully caustic in their action, so that the drug must be used in small quantities and with discretion. The most active agent produced is apparently sulphuric acid.

"3. It destroys all organisms, whether free in a cavity or invading the surrounding tissues.

"4. It acts more powerfully upon recently-incised structures than upon granulating surfaces.

"5. Its action is rendered more uniform and general and less violent by mixing it with glycerine.

"6. If the drug be used in any quantity, it must be removed within a very few days. Twenty-four hours is generally quite sufficiently long for the sulphur to produce its destructive action in a recent wound."

The following is the manner of application:—

1. On an open surface, whether of a recent wound (as at an operation) or of an ulcer, the sulphur, in fine powder, should be gently rubbed in with the finger, and the wound or sore dressed with an antiseptic dressing. No effect is produced on the surgeon's finger whatever.

2. In the case of an abscess, or other septic or tuberculous cavity, the sulphur is injected suspended in glycerine (3i to 3i).

The consequences have been described already—first, a slight burning pain; next, a strongly smelling discharge (from the gaseous products of the sulphur); third, a slough, varying according to the character of the wound (recent or granulating) and the amount of sulphur applied; and, lastly, there is the therapeutic (germicidal) action. The burning feeling, if complained of, can be mitigated or removed by cocaïn. As a rule, when the slight slough produced by the sulphur separates (in a day or two) healthy granulations are manifest, and Dr. Miller has not infrequently seen sores heal in a week or two that had resisted all other treatment for months.

Tannin Derivatives.—Several new compounds of tannic acid have been proposed for use.

Tannalbin is an albuminate of tannin which contains 50 per cent. of tannic acid. It is said to be almost insoluble in the stomach, and slowly soluble in the intestine, and hence valuable in cases of subacute or chronic intestinal catarrh. Tannalbin is a brown tasteless powder. Dose 0.5 to 1 gramme, up to 10 grammes in a day.—(*Vierordt. Deut. med. Woch.*).

Tannigen—a diacetyl derivative of tannin—is well spoken of by several observers. It is a yellowish grey powder, inodorous, and tasteless. It is said to resist decomposition in the stomach, but is broken up in the duodenum and liberates tannin in the nascent condition. Dose 2 to 8 grains, and

upwards, in milk or wine, 3 or 4 times a day. Müller, Kunkler, de Buck, Drews and Escherich, recommend the drug, especially in the diarrhœas of children.

Amyloform—a compound of formaldehyde and starch—is a white, odourless powder. It is recommended by Longard as an excellent dressing for wounds and ulcers. Devoid of irritating and toxic qualities it acts efficiently as a deodorising antiseptic, and restrains secretion. Moreover it is moderate in price.—(*Therap. Monatsh.*, Oct., 1896).

Formalin (40 per cent. solution of formaldehyde) has come to be quite a valuable agent as an antiseptic and deodoriser, aside from an increasing value in technical uses. It has now been abundantly proven that it is far more efficient and in much less quantities than corrosive sublimate, borax, boric acid, salicylic acid, and benzoic acid. Although chlorine is still acknowledged as the best known disinfectant, yet it does not always give satisfactory results, often chiefly due to the lack of the necessary moisture to produce the proper results. Dry chlorine gas is inefficient. In the case of formalin (formaldehyde in the form of vapour) no moisture is called for, and quite as efficient results are obtained as with chlorine in such places as the sick room and hospital ward. Some observers claim its superiority over chlorine. An additional advantage possessed by formalin is that it does not destroy the contents of the dwelling room.

Quite recently this agent has been effectively used as a preservative of foods (meats and vegetables). It is claimed that a one to two per cent. solution preserves fruit and vegetables not only in the ordinary sense, but in some cases does not destroy their fresh appearance.

The preservation of milk has been attempted with it, and with some good results, but there is still some dispute as to both the propriety and efficiency of this use.—(*Squibbs' Ephemeris*).

Lamarque (*Assoc. Franç. pour l'Avancement des Sciences*, 24th Session, Bordeaux) has used formol in 1 per cent. solution for washing out the bladder and urethra, and in 5 per cent. solution for instillation in these localities. In acute gonorrhœa and in gonorrhœal cystitis the results have not been very encouraging; in the chronic gonorrhœa they have been better. It is particularly in cases of tuberculous

cystitis that the treatment has been successful. The only disadvantage is the pain caused by the drug; this, however, though intense at first, quickly ceases. Daily washings with formol solution have been effectual in stopping hæmaturia, relieving pain, and lessening frequency of micturition in cases where every other treatment had failed.—(*Brit. Med. Journal, Epit.*, 1896).

Eucaine is proposed as a local anæsthetic. Its chemical name is alarming, for it is the methylester of benzoyl-n-methyl-tetra-methyl-gamma-oxy-piperidine-carboxylic acid. Its physical characters were thus defined to the Berlin Pharmaceutical Society by G. Merling:—

“*Eucaine* base crystallises from ether or alcohol in large glistening prisms, which melt at 104° C. *Eucaine* hydrochloride crystallises from methyl-alcohol solutions in large glistening efflorescent prisms containing two molecules of methyl-alcohol, and from watery solutions in glistening leaflets containing one molecule of water of crystallisation and permanent in the air. *Eucaine* hydrochloride dissolves in about ten parts of water at room temperature.”

Vinci carried out certain physiological experiments with *eucaine* on mice, rabbits, and dogs. He found that the instillation into the eye of a rabbit or dog of a 2 to 5 per cent. solution produced complete anæsthesia in one or two minutes, which lasted on an average ten or twenty minutes. A slight hyperæmic action was thereby developed, sometimes accompanied by slight symptoms of irritation of the conjunctiva. *Eucaine* acts upon the central nervous system at first as an excitant, later on in toxic doses producing paralysis. Small doses of *eucaine* increase the reflex excitability of mice and rabbits. Doses of one-third grain per kilo body weight cause tonic and clonic convulsions, which last several seconds and recur at moderate intervals. An increase of the dose causes paralysis, under which the animal dies. Should the dose be resisted, the paralysis following upon the convulsions totally disappears. Vinci found that the pulse is gradually slowed by subcutaneous and intravenous injections of small and moderate doses to the extent of 20 to 30 beats per minute. There is no increase of blood pressure.

Berger's investigations corroborated those of Vinci upon all important points. The former demonstrated the action

of eucaine to be analogous to that of cocaïn, with the following important differences:—

1. Eucaine is less toxic.
2. It slows the pulse.
3. It does not affect the pupils.

Dr. Charteris, Professor of Materia Medica and Therapeutics at the University of Glasgow, read a paper before the Royal Society of Edinburgh, in which he described experiments corroborating those of Vinci and Berger.

Kiesel summarises the advantages of eucaine:—

1. The heart is not influenced in any way; with nervous patients I have often had the opportunity of observing that the pulse before the operation had risen to 120 or 130, whilst after injection it rapidly fell to its normal rate without irregularity, and maintained its normal character.

2. Anæsthesia is more extensive than with cocaïn, both as regards time and locality. In my experience the anæsthesia has in individual cases extended to the muscular tissues.

3. Solutions prepared with sterilised water and maintained at the room temperature remain always clear, even without the addition of carbolic or salicylic acid, and never become flocculent like those of cocaïn.

One more advantage—considered by Berger to be one of its most valuable properties—is that eucaine can be sterilised by boiling without undergoing decomposition.—(Drs. Horne and Yearsley, *Brit. Med. Jour.*, Jan. 16th, 1897).

Ichthyol (ammonium ichthyol-sulphonate) has apparently received the confidence of a very large proportion of the medical specialists, especially the dermatologists. The reports are now numerous of successful cases when used externally. The success of its internal use is not so positively stated, although many firmly believe in its great benefits. Chief among its asserted uses during the past year is in the treatment of pulmonary tuberculosis. Dr. L. Guido Scarpa, of Turin, Italy, reported his successful results to the meeting of the Royal Academy of his city in 150 cases of this affection, and he insists on the advantages which ichthyol presents over guaiacol in the treatment of tuberculosis.

He gave from 20 to 200 drops of a solution of the purest ichthyol obtainable, dissolved in two-thirds distilled water or other suitable vehicle. It was in all cases well borne.—(Squibbs' *Ephemeris*).

Dr. Le Tanneur also praises it, and gives the drug in capsules (*Jour. de Méd. de Paris*). Cohn, of Hamburg, prefers it to any other drug.

Salophen.—R. Drews (*Centralbl. f. inn. Med.*, November 23rd, 1895) speaks of the value of salophen in the nervous form of influenza. After referring to the favourable reports of the use of this drug by Claus and Hennig, the author observes that in the more recent epidemics of influenza nervous symptoms have been more prominent than in the first epidemic. These symptoms consist in headache, vertigo, prostration, and more or less sweating, together with pains in the back, neuralgias, &c. Antipyrin has proved serviceable in the respiratory and gastro-intestinal forms of the disease, but it has not been so useful in influenza with nervous symptoms. The author says that in such cases he has used salophen with good results, and that its action is prompt, sure, and more rapid than the ordinary salicylates. The maximum daily dose given was 5 g. to 6 g. In delicate subjects 0·5 g. or 0·75 g. given at first every two or three hours sufficed to arrest the neuralgic pains in two or three days. No unpleasant symptoms were ever observed. Other advantages are that salophen has no smell or taste, and is wholly without poisonous properties.—(*Brit. Med. Jour., Epit.*, February 1, 1896).

Dr. Drews also finds salophen an admirable remedy in acute rheumatism in children. In most cases the articular pains were relieved within 24 hours. The drug being insipid and insoluble, may be taken in *cachets*, pills, or tabloids.—(*Extr. du Journ. de Clin. Infant*).

Trional has received considerable attention. Scognamiglio has made a study of this substance as a hypnotic (*Rivista Clinica e Terapeutica*, No. 11, 1895). He finds that trional has very important effects in cases of melancholia, mania, and many nervous affections; he endorses the observations of Spitzer in pulmonary affections, neuralgia, and other conditions of pain, and mentions surprising results obtained in the lancinating pains of tabes. The author quotes Claus as having found trional useful in very young children, the dose being from 0·2 g. to 1·5 g. according to the age. It seems to produce sound physiological sleep about ten to fifteen minutes after the dose. According

to the writer, trional produces no bad effect on either the circulatory, respiratory, or digestive systems. In the case of patients taking the drug most careful examination failed to show the presence of this substance. From his clinical and experimental experiences the author is strongly of opinion that in trional we have a powerful and safe hypnotic when given in doses of 1 to 2 g. per diem, and that in its action it is superior to sulphonal, chloral hydrate, and morphin, and that hæmatoporphyrinuria as a result is greatly exaggerated.—(*Brit. Med. Jour., Epit.*, March 21, 1896).

Beyer (*Deut. med. Woch.*, 1896, No. 1) refers to the recorded cases of trional poisoning. Notwithstanding the frequency with which trional has been used within the last five years only six cases of poisoning have been recorded, and even then these cases will not all stand close examination. Hecker's case is, in the author's opinion, the only one of true chronic trional poisoning. Here there was no hæmatoporphyrin in the urine, and the patient recovered. The author quotes a case of cerebral hæmorrhage in which hæmatoporphyrinuria was observed, and in which no trional or sulphonal had been given. He thinks that the hæmatoporphyrin was here due to intestinal disease, but he cannot say whether this substance passed directly into the urine through a recto-vaginal fistula. Hæmatoporphyrinuria is the result of disease not only of the liver, but also of the hæmatopoietic organs. In one of his cases treated with trional on account of sleeplessness the urine became brown in colour, but here the presence of urobilin in large quantities accounted for the colour. The author maintains that trional should be given only in a single evening dose, and that a smaller quantity is efficient in women than in men. After an extensive trial in the Strassburg Clinic for Mental Diseases, the author says that trional is one of the best, if not the best, of hypnotic drugs, and that unpleasant results can easily be avoided with care. Seldom more than 2 g., and never more than 3 g., should be given.—(*Brit. Med. Journ., Epit.*, February 15, 1896).

Professor von Mering, who from his original investigations upon hypnotics is entitled to speak with authority, likewise testifies to the great value of trional. From his own experience, fortified by that of many of his medical brethren

to whom he applied for information, he concludes that trional is superior to sulphonal (dional), and holds, at present, the first rank among hypnotics. In the event of severe pain, a small dose of morphin may suitably be conjoined to the trional. The average dose of trional is 15 grains.—(*Therap. Monatsh.*, August, 1896).

ARSENIC IN SCARLATINA.

THE *Journal of the American Medical Association* takes the following from *La Semaine Médicale*:—"A Russian physician, Speransky, announces that he treated a large family of children with arsenic as a preventive measure when one was attacked with fatal scarlet fever and isolation was impossible. Although they slept with the sick one, none of the rest took the disease except the oldest, 18 years, to whom the arsenic had not been administered, and the youngest, who had been neglected and had received only occasional doses, with none at all for several days before the disease appeared. The arsenic was administered in Fowler's solution, half a drop at each of the two principal meals (8 and 9 years) with half this amount at 3 years. When the 3-year old child was taken with the disease he received half a drop three times a day, with powders of phenacetin and terpin hydrate; the 18 year old four drops with the powders. The arsenic attenuated the disease in a remarkable manner after it had developed, with no fever after the first day and the child so well that it was impossible to keep it in bed. The other cases treated outside showed the same results—a striking improvement in the course of the disease after the first day, with complete recovery in a week. The preventive doses were continued for six weeks."

STATISTICAL GLEANINGS.

ONLY 906 persons in 1,000,000 die of old age. Twelve Englishmen in every 10,000 die of gout. Of every 1,000 sailors 84 have rheumatism every year. Epilepsy is most frequent in England, 51 deaths to 10,000. The death-rate of the French army is 107 to 10,000 men every year. Of every 10,000 deaths in St. Johns, N. F., 2,230 are of bronchitis. Liability to death from heart disease is greatest between 30 and 40. There have been 196 visitations of the plague in Europe since 1500.—*Jour. Am. Méd. Assoc.*

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF PATHOLOGY.

President—CONOLLY NORMAN, F.R.C.P.I.

Sectional Secretary, E. J. MCWEENEY, M.D.

Friday, January 15, 1897.

PROFESSOR BENNETT in the Chair.

Diseased Hearts.

DR. J. B. COLEMAN exhibited a series of pathological hearts illustrative of different affections of that organ. The specimens were taken from cases which came under his notice in hospital for the last five years.

(1.) The first was that of a girl, aged eleven years, who was admitted to Jervis-street Hospital with chorea gravis and endocarditis. She died of exhaustion, the violence of the choreiform movements preventing her from sleeping or eating. The heart showed vegetations on the mitral valve.

(2.) The next case was that of a boy, aged eight years, who was admitted to the Children's Hospital last month suffering from mild chorea and mitral regurgitation of old standing. Whilst in hospital he developed acute endocarditis, of which he died. His heart was remarkably enlarged, particularly the left side. The mitral orifice was much dilated, admitting two fingers readily, whilst the apex was bifurcated, the apex of the left ventricle being nearly an inch below that of the right, and separated from it by a groove.

(3.) The third specimen was from a boy, four years of age, who was admitted to the Children's Hospital recently suffering from rheumatic pericarditis. Both visceral and parietal layers of the pericardium were covered with soft, shaggy, easily-detached lymph, and the muscular tissue of the heart was soft.

(4.) The next specimen was taken from a girl, aged nineteen, who died in the Whitworth Hospital. She had been under Dr. Coleman's care from time to time for the past two years, presenting well-marked signs of mitral stenosis. The heart showed extreme stenosis of the mitral orifice, which would not admit the edge of the finger-nail. The left auricle was much hypertrophied, left ventricle normal size, right ventricle hypertrophied, right auricle dilated. Patient had suffered from paroxysms of dyspnoea and hæmoptysis, and hæmorrhagic infarcts were found in the lungs.

(5.) The heart of a man, aged fifty-six, showed puckering and calcification of the aortic valves.

(6.) The next specimen was from a man, aged fifty-five, who was brought to hospital dead. *Post mortem* the pericardium was found distended with blood, which had come from the rupture of a small aneurysmal bulging of the upper part of the ascending aorta.

(7.) A man, aged sixty, died suddenly. His heart showed a fusiform aneurysm of aorta, and chronic sclerotic changes in the aortic valves.

(8.) The specimen, taken from a man, aged sixty-three, who died suddenly, showed the whole inner surface of the aorta lined with calcareous plates; the aortic valves and coronary arteries were also extensively calcified.

(9.) The next heart was from a man, aged sixty-six, who was dead on admission to hospital. The specimen showed a rupture near the apex of the left ventricle. On the pericardial surface was seen a rent about half an inch in length, and on the corresponding endocardial surface there was ulcerative destruction of the endocardium and muscular tissue. The pericardium was found distended with blood.

(10.) The last specimen was taken from a labourer, aged twenty-eight, who, whilst engaged in some severe work on the quays, suddenly dropped dead. The men who brought him to hospital stated that previously he had made no complaint. *Post mortem* the pericardium was found to be distended with blood, and the cause of death was a ruptured aneurysm of the left ventricle. The heart shows a sacculated aneurysm, somewhat bigger than a walnut, situated near the apex of the left ventricle. The external wall of the aneurysm was composed of the pouched-out pericardium; the

cavity invaded the thickened myocardium, and a small opening from the inner side of the ventricle near the apex led into the sac of the aneurysm.

THE CHAIRMAN remarked that these cases of spontaneous rupture of the heart accorded with the opinion expressed by Dr. Stokes in former days, that when spontaneous rupture of the heart occurred it took place at the apex of the left ventricle.

DR. FRASER said two points deserving of elucidation arose in these last-mentioned cases. One was as to the cause of the aneurysmal dilatation—why it should occur in the strong muscular covering of the heart. Was it the result of ulceration, or of degeneration of the tissue, or of an abscess? It had been noticed that when blood escaped slowly from small aneurysmal rents, the action of the heart continued, the result being an accumulation of blood and slowly-occurring death of the subject. Professor Haughton had given an account of a case of that kind of slow death resulting from blood coagulated round the heart. As to the bifurcated heart, it must be looked on as a case of congenital malformation.

DR. SYMES asked whether any great dilatation of the heart, without valvular disease, was observed in the cases of the children who died of chorea. Dilatation of the heart pure and simple was one of the commonest affections of children. It was said that chorea was created by rheumatic poison; and there was no doubt that the heart did dilate enormously in such diseases in young children. He had seen hearts of young children in which he would have pronounced the mitral valve to be diseased, but more experienced men had told him that the appearances were healthy.

DR. MCWEENEY said he had examined a large number of hearts, but had never seen anything like the heart with the double apex which had been exhibited. Occasionally a slight depression between the right and the left sides of the apex was met with; but a left apex fully an inch below one on the right side, with a deep groove running between them, was a matter of considerable rarity.

THE CHAIRMAN said he had never seen a bifurcated heart like the one exhibited.

MR. F. A. NIXON said a good many of these pathological conditions of the heart were due to some form of strain happening to men who pursued laborious occupations, and to soldiers and sailors. The late Sir William Aitkin put forward the theory that such strains or injuries resulted in some form of inflammation. Patients who were brought dead to his hospital were nearly always men who had been employed in lifting heavy weights, such as corn and

quay porters. The specimen of cardiac aneurysm now shown was a rarity.

DR. COLEMAN (in reply) said that in cases of chorea in children he had noticed dilatation of the heart, but not very commonly. There was no doubt as to there being vegetation of the valves in the hearts he had shown as exhibiting that feature, although it was more distinctly visible when the specimens were fresh, for there was then obvious inflammation of the valves.

Achorion Schönleinii.

THE SECRETARY (Dr. McWeeney) showed pure cultivations on glycerine agar and ordinary agar of *achorion Schönleinii* grown from a favus scutulum given him by Dr. Coleman. A fragment of the scutulum was crushed in a drop of sterile broth between sterile glass slips, and a trace of the fluid rubbed into the nutrient surfaces. Abundant and pure development occurred at 37° C.

Pyogenic Organisms.

THE SECRETARY also showed a series of these organisms which he had recently isolated from the human subject. The first was *Streptococcus pyogenes* var. *longus* from a severe whitlow on his own finger (*post mortem* infection). The second was *Staphylococcus aureus* from a metastatic miliary abscess of the kidney in a case of septico-pyæmia and infective endocarditis that had terminated fatally within two days of admission to hospital. The patient was a powerfully-built man, aged twenty-five, a cattle drover, of alcoholic habits, from Dr. Boyd's ward in the Mater Hospital. The third organism was *B. coli communis* from the peritoneal exudation of a case of general purulent peritonitis from perforation of the vermiform appendix in a boy aged ten. A remarkable feature was the discharge of 4 ounces of turbid, yellow, foul-smelling fluid from the subject's left ear when on the *post-mortem* table. This fluid contained *B. coli* also in pure cultivation [specimen shown]. Intracranially nothing was found to account for the accumulation. Lastly, he showed *B. pyocyaneus* obtained from the urine of a case resembling tuberculous pyelitis, but shown to be due to infection of the kidney with the organism mentioned. This was a rare occurrence. The race isolated was intensely chromo- and patho- genic.

THE CHAIRMAN remarked that in the case of the boy who died from peritonitis, and out of whose ear fluid came, the contents of the stomach and intestines might have got up through the Eustachian tube.

DR. W. FRAZER remarked that a long time ago, when bacteriology

was in a very different stage from that which it had reached now, he made an attempt to grow an achorion between two layers of glass; and it succeeded, though not to the extent obtained by Dr. McWeeney's mode of culture. His specimen was obtained from a lady who got a single scutulum in the inside of the thigh. At first it was very difficult to say where the infection came from; but it turned out that a child of the woman who washed clothes for the lady had favus, and the conclusion was that the patient's thigh had got scraped in some way, and that the little group of crusts formed at the spot. He was quite satisfied at the time as to the nature of the micro-organism. The other cultivations exhibited by Dr. McWeeney opened an interesting field of observation; but he trusted that for his own sake, as well as that of the Society, he would refrain in future from utilising his own body for scientific purposes.

Trichinosis.

DR. ALFRED R. PARSONS made a communication on trichinosis, which was illustrated by specimens of encapsuled trichinæ removed from the body of a patient between sixty and seventy years of age, who was admitted to the City of Dublin Hospital last September. He was a labourer by occupation, and stated that he never had any serious illness. For a few years past he has had a cough, but was not obliged to give up his work till six or seven weeks before admission. Physical examination revealed the presence of extensive tubercular disease of the right lung. The case terminated fatally in a little over two months after his admission, and the *post-mortem* examination disclosed a large cavity in the apex of the right lung. Scattered through the muscles, especially of the neck, extremities, and diaphragm, were numerous white spots, most abundant towards the tendinous insertion of the muscles. A small portion of one of the muscles was spread out in a thin layer on a slide, and in an area about half an inch square at least twenty-five capsules could be counted. None could be found in the heart muscle. On treating the capsules with dilute hydrochloric acid the embryonic trichinæ were easily seen. Experimental investigation proved that the trichinæ were dead, and probably the attack occurred so many years ago that it had passed out of the recollection of the patient. It would have been impossible for such an invasion of the muscles as this case disclosed to have occurred without producing symptoms. Within the last five years muscle trichinæ have been recognised in two other cases—one in the anatomical department of Trinity College, and the other in the anatomical department of the Royal College of Surgeons.

THE CHAIRMAN said the honoured name of Dr. Robert Harrison, of that city, ought to come into the literature of this subject, for he reported the figure of *Trichina spiralis* synchronously with, if not previously to, Dr. Owen.

DR. W. FRAZER said he believed there were specimens of Dr. Harrison's case still in the Museum. Another honoured name—that of Dr. Robert M'Donnell—should also come into the history of the subject, for he had a case of trichina, and fed white rats with the infected tissue; and he (Dr. Frazer) got specimens from them. He also had three cases himself, which he believed to be cases of trichina.

DR. FINNY said that about the year 1867, when he was Demonstrator in Trinity College, he came on a portion of a diaphragm which was studded over with these white spots, and on examining them, he failed to find anything but calcareous-covered trichinæ. The patient was an old woman, and it had not appeared that she suffered in any way from them. How long these organisms remained in the calcareous state after they accomplished their final journey into the muscular tissues was still an unknown matter. There were many guesses as to how they made their way from the intestinal canal into the muscles of the abdomen and the diaphragm, where they were so frequently found. One path might be through the intestinal walls into the peritoneal cavity, and from the surface of the stomach upwards into the diaphragm. If the path were through the blood vessels—which Dr. Parsons thought was possible—they would be found in the more distant muscles and also in the heart more commonly than they were.

MR. NIXON said he met with this disease on two occasions in the dissecting-room many years ago. In one of the cases, enteric fever was diagnosticated, and in the other rheumatism. In each case there was elevation of temperature; and in one there was marked distension of the abdomen, and in the other great pains in the muscles. He thought the path by which trichinæ travelled was not constant, and that sometimes they went by the peritoneum into the diaphragm, whilst in other cases they took the line of the lymphatic vessels. He thought this disease existed more frequently than they were aware of, and that it was extremely difficult to diagnosticate. In both of the cases he had mentioned the diagnoses at first made were wrong.

DR. KNOTT said he supposed the reason of that was that in one case the irritation produced by the trichinæ in the earlier stage of their progress was mistaken for enteric fever, whilst in the other the affection of the muscles in the later stage was taken for rheumatism.

DR. FRAZER said this disease appeared to have two courses—one a rapid one, and the other slow and chronic.

DR. DEMPSEY asked for an explanation of the œdema of the eyelids that was noticed in Dr. Parson's patient.

DR. PARSONS (in reply) said that in neither the English nor German literature of the subject did the names of Dr. Harrison or Dr. M'Donnell occur. Two years ago a case of the disease was met with in Trinity College dissecting-room, and four or five years ago another case was met with in the dissecting-room of the College of Surgeons. How long these organisms retained their vitality after they had become encapsuled had not been determined. It was certain, however, that they did retain vitality for a considerable time after they were encapsuled, and that dipping them in alcohol did not destroy them. He agreed with Dr. Knott that in the early stages the symptoms produced by them might easily be mistaken for enteric fever, for there was pyrexia for five or six weeks, but later on there was a change in the symptoms, and the severe pains in the muscles indicated the lodgment of the embryos in them and the consequent irritation. As to Dr. Dempsey's question, the œdema was not limited to the upper extremities, though it commonly occurred in the eyelids. It also occurred, in some cases in the lower extremities. It was difficult to understand why œdema should occur in the eyelids. The only explanation he had heard suggested was that there was some plugging of the lymphatics or capillaries, but he was not satisfied with it.

The Section then adjourned.

SECTION OF SURGERY.

President—WILLIAM THOMSON, President of the Royal College of Surgeons.

Sectional Secretary—JOHN LENTAIGNE, F.R.C.S.I.

Friday, January 22, 1897.

PROFESSOR BENNETT in the Chair.

Excision of the Tongue.

MR. WHEELER communicated a paper on this subject. [It will be found at page 281.]

The CHAIRMAN remarked that Mr. Wheeler had directed special attention to the association of malignant disease with tertiary syphilis. The most important feature of his paper was that it exhibited a more hopeful view of the treatment of cancer of the

tongue than was usually maintained. Most of them had had sad experience of that disease, and very few had been able to record cases in which, after fifteen years, there had been no return of the disease.

The VICE-PRESIDENT, R.C.S. (Mr. Swan), said he thought that Mr. Wheeler was to be signally congratulated on the fact that he had patients alive 15 years after operation for this disease. But most surgeons would agree with him (Mr. Swan) that cases were occasionally seen which presented all the clinical aspects of malignant disease of the tongue—viz., the ragged sore with a hard base, the emaciated appearance of the patient and the enlargement of the neighbouring glands, the age of the patient also being that at which cancer commonly occurred—and which were yet not cancer but only simulated it, and got well under a course of mercury. He was not a bacteriologist, but he must say he had no faith at all in the bacteriological evidence that was derived from the scrapings of any sore on the human body. He perfectly agreed with Mr. Wheeler as to the inefficacy of tying the lingual artery, so far as its ligation was supposed to be demanded on account of hæmorrhage in the removal of the tongue. Provided they had an easy access to the mouth they need never fear hæmorrhage in that operation; but if, in the course of removing the cervical glands—which Mr. Wheeler apparently did not approve, although many surgeons did—having regard to the intimate connection between the tongue and the sub-maxillary glands, if he (Mr. Swan) should, in the course of an operation, meet the lingual artery he would ligate it, because that would render inspection of the tongue a little more easy afterwards.

SIR THORNLEY STOKER said he did not think that the minute anatomy of the organ had any essential bearing on the rude facts they had to deal with in connection with the surgery of this portion of the body. In his (Sir Thornley Stoker's) practice only one question in connection with the causation of cancer of the tongue interested him, and that was its connection with syphilis. He agreed with him that syphilis was unquestionably a predisposing cause of cancer; and he also agreed with the practical remarks of Mr. Swan as to the difficulty of diagnosing many cases of cancer of the organ in question from syphilitic affections. And what was very confusing was, that one of these conditions sometimes ran into the other. Most of them had seen instances of what had commenced as syphilis degenerating into carcinoma. Mr. Wheeler spoke of dividing the gustatory nerve as a means of relieving pain and salivation in cancer of the tongue. He had performed the operation on a good many

occasions, and he had not found any marked benefit to result from that proceeding. The gustatory nerve was seldom divided at a time when the nerve was easy of exposure and when the operation was an insignificant one; but when the cancer had infiltrated the floor of the mouth and produced aggravated pains in the ear the division of the gustatory nerve became rather a serious operation. He entirely dissented from the practice of transfixing the base of the tongue because he believed it to be quite unnecessary. There was a reason for transfixing the base of the tongue in the days when the *écraseur* was used in the operation, and a needle was put in to prevent it from sliding. But no one would, he trusted, use an *écraseur* in this operation now. As to the thermo-cautery scissors, he thought it a totally unnecessary and objectionable instrument. In cases which were proper ones for the performance of the operation, perfect command over the vessels was obtained by performing Whitehead's operation and using a clipped forceps if an artery began to bleed. He had never found it necessary to divide the cheek; and dividing the lower jaw and opening the floor of the mouth were, in his opinion, bad and unnecessary practices. Complete access could be got to the base of the tongue—in spite even of the small mouths that Mr. Wheeler seemed to have found so common—through the oral aperture by Whitehead's operation, and as far back as it was safe for the surgeon to carry that operation. He (Sir T. Stoker) had of late years done no operation except Whitehead's, and he believed it to be the best for removing the tongue in a case of cancer. Other procedures might in certain cases be necessary, but rarely. In the last case he operated on he found it necessary to go so far back that he had to remove the anterior artery of the palate and a portion of the tonsil on one side, and he found no difficulty in doing it by Whitehead's operation. The tongue could, by a pair of forceps—and not by the brutal old practice of a ligature—be drawn so far out of the mouth that the operation was practically an extra-buccal one; and every artery that sprang—there were only four or five—could be secured by a clipped forceps and tied. He believed that the practice of operating in hopeless cases of cancer of the tongue was a bad one. He had never, in his long experience, seen a case of a patient dying from suffocation, or from starvation, that could not have been relieved by artificial means. He was in complete accord with Mr. Wheeler, however, as to the deligation of the lingual arteries. Mr. Swan hit the nail on the head when he said that those arteries might be deligated when they came into view in such critical operations as the removal of the jaw, or of the sub-maxillary glands;

but in ordinary cases he (Sir T. Stoker) did not believe deligation of the lingual arteries to be either necessary or advisable.

MR. TOBIN said the point upon which he most desired information was the connection between the lymphatic system and the tongue—that is to say, the diffusion of the disease through the lymphatics. If they had very extensive observations as to what course the disease usually followed, what glands became engaged and what did not, they would be in a better position to undertake more radical operations than they were at present. At present their system of dealing with this disease in the tongue was slipshod compared with what they did in dealing with the disease in the breast. Not very long ago they treated the disease in the breast very much as they at present treated it in the tongue. They removed the diseased breast, and then they attacked the axilla and took it for granted that there were no enlarged glands present; but if there were they removed them and so left the case. But as surgery advanced there was a levelling up to a degree of excellence that had not been attained before. At present the practice in operations on the breast was to remove the lymphatic glands in their continuity with the disease in the breast. They did not make one incision for each, but removed them, as far as possible, in their continuity. Again, they never took it for granted that glands were not enlarged because enlargement was not evidenced to the touch. There were few of them who had opened the axilla and not found enlarged glands in cases of undoubted carcinoma of the breast. As to ligaturing the lingual artery, he had never seen an operation undertaken for ligaturing it in which enlarged glands were not found. On four or five occasions on which he ligatured the artery he found them himself, and he had invariably seen them when others operated. In those cases it was not possible to detect the enlargement by touch. He did not therefore think that mere examination by the fingers was sufficient for the purpose. At present, when scrofulous glands were removed from the neck—in almost every crevice of which glands existed—a string of glands connected with each other was generally removed; and in cancer of the tongue he should like to see an operation of such magnitude undertaken that not only would the diseased tongue be removed—not through the mouth, but through an incision underneath the jaw so that the floor of the mouth and all the structures in their continuity could be reached as far as possible—but also the glands connected with it.

MR. M'ARDLE congratulated Mr. Wheeler on the cosmopolitan character of his paper. But very little information had been given

as to what became of the cases in which the disease returned. It had been his experience that where an extensive cancer of the tongue had been removed a fairly early return of the disease took place; and some guide was wanted as to the possibilities of the return. Where the disease had not returned for 15 years it would be very desirable to have a microscopic section which would indicate the character of the disease at the outset. His experience, in cases in which the diagnosis had been thoroughly established, was that the return took place very much earlier; and if cases were to be of any service they must be accurately watched to the finish. He dissented altogether from the views which had been put forward as to the applicability of this operation in all cases. He congratulated Mr. Wheeler on his conversion to Listerism. The phrase "removal of the tongue" was hardly sufficient for nineteenth-century surgery. It was not sufficiently definite. Removals of the whole tongue, of a patch at the side of it, and of the front of it should be distinguished. If statistics were to be of any use they should be founded on something definite. A cancer engaging the base, on one side of the tongue, bore little or no resemblance to a cancer on the tip of it; and these degrees of affection should not be all classified in a heap. Mr. Wheeler's paper told them how many operations he had carried out; but in his (Mr. M'Ardle's) opinion it told them nothing more of surgical importance. Mr. Wheeler objected to ligaturing the lingual artery, because the healing of the wound on the outside delayed so long the removal of the tongue from within; yet he told them that he left the sub-lingual gland until the wound through which the tongue was removed was healed, Was not that a contradiction? If there was spreading of the disease it must be from the glandular parts and not from the tongue; and the wound made for the removal of the tongue took much longer to heal than the other. Mr. Wheeler said that in one case the patient died from "asthenia." He would like an explanation of what was meant by that expression. He (Mr. M'Ardle) was adverse to the practice of charring the mouth by cautery. The operator saw nothing of what he was doing; he never knew whether he had got beyond the limits of the disease or not; and though the practice in question was the readiest way, it was not the most perfect. If the disease had engaged the base of the tongue, the lingual artery should be secured and a sub-maxillary incision should be made outside the mouth; for once the base of the tongue had been infiltrated with cancer, the sub-lingual glands must be infected, and it would be impossible to remove them without an external incision. He had never seen the slightest ill

effect ensue from the removal of the tongue from outside, and within the last ten years he had carried out that form of operation a considerable number of times, making an incision down from the angle of the jaw and coming up again. He never did Kocher's operation except once. When performing the operation through the mouth they should see that every shred of the cancer was removed.

MR. LENTAIGNE said he heartily endorsed every word that had been said by Mr. Tobin. In operating for cancer of the tongue they ought always make themselves certain as to whether there were diseased glands or not, and they could effect a careful examination on that point only by making an external incision. Up to two or three years ago they firmly believed in Whitehead's operation; but they did not get to the root of the disease by it, and if there were an extension of the disease to the glands, Whitehead's operation was not sufficient. If he were tempted by a very small cancer at the end of the tongue to perform Whitehead's operation, he would go on to a second operation and search for the glands, especially under the upper portion of the sterno-mastoid, where, in his experience, recurrence most often took place; and if he had any doubt on the subject, he would not hesitate to make incisions on both sides. The statistics of mortality in operations for cancer of the tongue were very high, and some surgeons said that there was no use in operating with the hope of ultimate cure, as the disease would inevitably recur. But Kocher and others had given a considerable number of cases in which the existence of cancer was undoubtedly proved by microscopic observation, and in which the excision of the glands was performed, and these cases had been followed for many years, and cures or prolonged relief resulted in them. He agreed with Mr. Tobin as to the kind of work they should aim at, and he believed that in a little time they would look on cancer of the tongue as they did when it occurred in the breast or in any other part of the human body, and would feel bound to look for the disease in any place where it was likely to have made a fresh extension. He did not think their knowledge was exact enough as to where the new start was likely to take place, but in the majority of the cases of recurrence in his own and in other persons' practice, the recurrence took place in the glands just under the upper portion of the sterno-mastoid. There, he thought, they were bound to make search. He agreed with Mr. Wheeler as to the importance of having the mouth clean before the operation. He thought most operating surgeons did not take sufficient care on that point. The quantity of dirt in the teeth of ordinary hospital patients was considerable, and therefore the teeth should be well

brushed for days beforehand and washed with an antiseptic. A very prolonged course of cleaning was, in his mind, advisable. He agreed that cauterization of any kind was objectionable. Clean incisions were far preferable, and he should not think of cauterization unless there was some special reason calling for it. He had frequently used adhesive gauze after operations on the tongue, and had found it to be of great use. It protected the cut surface from food, &c., and the healing proceeded in a most satisfactory way under it. He considered that splitting open the cheek was a desirable procedure in a few cases, but any extra buccal operation that did not go down to where there were glands likely to be infected was insufficient and not likely to be satisfactory.

SIR THORNLEY STOKER said, in explanation, that when speaking of Whitehead's operation he never meant to exclude the practice of external incisions. Although he used Whitehead's operation he could not recollect doing excision of the tongue without making extensive external incisions as well.

MR. DOYLE said that the man who popularised the operation for the thorough removal of cancer of the tongue and all the glands in the sub-maxillary region was Mr. Croly. As to the diagnosis of this disease, of which he (Mr. Doyle) as well as others has had sad experience, it was by no means easy. A late associate of that Society, who had a small white spot near the margin of the tongue, was seen when it first appeared by some specialists of London and other cities, who said there was nothing in it. Three years afterwards it was removed by an operation under cocaine. The removed portion was submitted for microscopic observation to another specialist, who could not tell anything about it. Three months afterwards the disease recurred in the sub-maxillary glands and terminated fatally.

MR. TAYLOR said diagnosis of cancer of the tongue was in a great many cases difficult; but he did not see why a small portion of the affected part could not be removed and microscopically examined. The results of operation for cancer of the tongue could not be very satisfactory so long as they were without microscopic aid. He considered that the nature of the operation should vary according to the site of the cancer. If it was on the anterior part of the tongue, the operation best suited for that was one from the floor of the mouth, because the glands and cellular tissue could in that way be most easily removed, the diseased part of the tongue taken away, the lingual artery tied, and good drainage effected. In a case which he had, involving the posterior part of the tongue and part of the tonsil on the right side, he operated from the neck

by an incision from the mastoid process. He removed several glands and part of the jugular vein, and a thing which greatly contributed to the ease of the operation was that he cut the posterior belly of the digastric.

MR. MYLES said that quite recently, with the assistance of Sir Thornley Stoker, he operated on a lady for a supposed cancerous tumour of the breast, and as the question of diagnosis was very doubtful, he called in a younger colleague, Mr. Greer, who was an experienced microscopist. He made a microscopic examination of part of the tumour, but the result was nil—it was perfectly futile. First, sections prepared under such circumstances were entirely unreliable; and secondly, it was extremely difficult to prepare them. It was difficult to cut a section from a fresh tissue. He therefore contended that microscopic examinations of scrapings, or of fresh sections of the tongue, were absolutely unreliable. Professor Hamilton, of Aberdeen, brought under the notice of the profession the changes that occurred in the tongues of old people, and produced microscopic sections of the tongues of persons over fifty-five years of age, and every one of these presented the identical appearances that were usually associated with epithelioma. He placed side by side with them sections of clinical epithelioma, and the most expert pathologists were unable to distinguish between the two. As to the cases that recovered without operation, when he (Mr. Myles) was house surgeon of Steevens' Hospital, a case came there to be operated on for cancer of the tongue, and everybody, except Mr. Edward Hamilton, diagnosticated it to be epithelioma. The patient was a woman of sixty-five or sixty-six years of age, the mother of 18 children and the grandmother of 24. Mr. Hamilton suggested a mild course of mercury, which was adopted, and she went home perfectly well. He was firmly convinced that in a large percentage of cases it was impossible to distinguish the syphilitic gumma from true epithelioma. He joined issue with those and others who would limit their means of information as to the existence of glandular enlargement to digital explanation. Mr. Wheeler stated that in certain cases, some time after the operation for the excision of the tongue had been completed, he made an incision in the sub-maxillary region and removed the glands. That was not the thorough eradication contemplated by Mr. Tobin and Mr. Lentaigue. A person, suppose, had a large cancer of the tongue. There was no obvious or visible connection between the cancer and the enlarged glands under the sterno-mastoid muscle. The tongue was removed, and in a fortnight afterwards the glands. But what became of the intervening point of connection? Was it to be left there? Any operation that

left the chain of connection between the cancer and the glands was incomplete. On one other point he was entirely at one with Mr. Wheeler's hostile critics, and that was as to the use of cautery. As a means of preventing hæmorrhage it was an antiquated procedure. At the same time he joined issue with those who said that hæmorrhage of the tongue was never sufficient to cause alarm or difficulty. In his own practice, and in that of others, he had again and again seen cases in which there was very considerable difficulty in controlling it. He would go further and say that in an operation for the removal of one half of a tongue the preliminary ligaturing of one lingual artery was absolutely useless so far as controlling hæmorrhage was concerned. In dividing the middle of the tongue he had himself met with very free hæmorrhage from the cut surface.

MR. WHEELER (in reply) said he never found it necessary on account of danger of hæmorrhage to tie the lingual artery beforehand, and if there was hæmorrhage it could be controlled by passing the finger round the base of the tongue. There was no difficulty at all in controlling hæmorrhage. As to thermo-cautery, he (Mr. Wheeler) was not wedded to it; but he used it for two reasons—one on account of secondary hæmorrhage, and the other because it did not char. It had the advantage of preventing oozing from the surface, but it would be imperfect if the lingual artery were not ligatured. In the electric cautery, secondary hæmorrhage had not been known, but he had used that only once. As to "proper" cases for operation, he considered that where there was a foul and offensive mass in the patient's mouth the removal of it would relieve and comfort him, and perhaps prolong his life, although there might be no hope of curing him. In many of the cases he had brought forward the disease must have returned—it could not possibly have been otherwise. He preferred to remove the tongue first, and the glands afterwards, for this reason, that after the removal of the tongue the sub-maxillary glands, if they were enlarged, went down a little. There was a band of tissue—whether connective or not was a matter of dispute—going from the sub-maxillary glands down to the lymphatic glands, and guided by that tissue they could find the glands and lift them out more perfectly after the subsidence of the others. It was not so easy with the sub-maxillary glands in a state of tension, or perhaps inflammation, to remove the entire of the glands perfectly, but when they waited until after the subsidence everything could be removed perfectly, and they would not have the disease recurring in the site of the sub-maxillary space. In cases

of what was called non-penetrating epithelioma, they would hardly have enlarged glands, and in such cases he had had the best results. He had recorded the history of his cases as fully as he could. There were only 10 that he could account for. In 29 he knew that the disease returned. As to 22, he had no direct knowledge of the disease not having returned, but he heard indirectly that 5 of them were alive. He did not quite understand what was meant by his "conversion to Listerism." In 1884 he wrote a paper in which he stated that cleanliness, rest, and drainage were necessary in operation, and he advocated the same cleanliness in operations on the tongue. As to the case of the man with reference to whose case he used the term "asthenia," he lost hardly any blood, he had an intermitting heart, he got weaker after the operation, and there was no reason for believing that he had thrombosis. As to the operation to be undertaken, it depended on whether they had to remove the tongue, or the tonsils also, or part of the palate; and in the latter cases he had taken out a portion of the inferior maxillary. He wished it to be clearly understood that where the glands were enlarged he not only took out the sub-maxillary glands, but followed down the connective tissue and eliminated the lymphatics. He adopted no half measures in such cases, but in some of his cases the glands were not enlarged at all.

The Section then adjourned.

HORSE-MEAT IN PARIS.

THERE are at least two hundred horse butcher shops in Paris. The first one dates from July 1, 1866, since when the consumption has grown continuously. In 1872, 5,034 horses were eaten in Paris; in 1878, 10,000; in 1894, 21,227; in 1895, more than 30,000.—*Jour. Am. Med. Assoc.*

HOLLOWAY SANATORIUM.

THIS hospital contained 350 patients on January 1st, 1895, and 328 on the last day of the year. There were 122 admissions, 72 recoveries, 36 discharged relieved, and 13 deaths. The recoveries stand at the high percentage of 64·86 on the admissions, and the deaths are only 3·81 on the average number resident. Drink figures as the cause of insanity in 11 of the admissions, hereditary influence in 18, domestic trouble in 6, and religion in 12. Seven of the deaths were owing to cerebral diseases and 1 to consumption.—*The Hospital.*

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MANY of the non-intoxicating beverages introduced as substitutes for alcoholic drinks tend, either in form or flavour, to directly frustrate the cause they professedly serve. The cups which cheer but do not inebriate are not so common, but when a really palatable and wholesome drink of the kind is found, it should meet with all the encouragement temperance advocates can accord. This, at least, would appear to be the view of Mr. S. C. HALL, the venerable apostle of total abstinence. In a late number of *Social Notes* he says:—"I have looked about for something to drink, and I think I have found it—pleasant, palatable, healthful. I refer to the Ginger Ale manufactured by Cantrell & Cochrane (of Dublin and Belfast). I know of no drink so delicious, and I believe it to be as healthful as it is agreeable." This is praise from the Sir Hubert Stanley of temperance, and where he leads, the public may safely follow.—*Court Circular*.

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SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
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VITAL STATISTICS

For four Weeks ending Saturday, February 27, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

TOWNS	Weeks ending				TOWNS	Weeks ending			
	Feb. 6	Feb. 13	Feb. 20	Feb. 27		Feb. 6	Feb. 13	Feb. 20	Feb. 27
Armagh -	35.1	49.1	21.0	14.0	Lisburn -	21.3	17.0	51.1	17.0
Ballymena	16.9	22.5	22.5	33.8	Londonderry	42.4	36.1	40.8	40.8
Belfast -	36.5	39.1	30.6	28.3	Lurgan -	36.5	45.6	45.6	13.7
Carrickfergus	29.2	17.5	17.5	5.8	Newry -	48.3	40.2	16.1	20.1
Clonmel -	14.6	24.4	39.0	9.8	Newtownards	17.0	22.7	51.0	51.0
Cork -	26.3	37.4	34.6	30.5	Portadown -	12.4	30.9	80.4	49.5
Drogheda -	30.4	7.6	30.4	26.6	Queenstown	34.4	11.5	23.0	0.0
Dublin -	42.8	40.4	42.2	37.0	Sligo -	30.5	15.2	15.2	35.5
Dundalk -	41.9	8.4	25.1	20.9	Tralee -	33.6	11.2	44.8	22.4
Galway -	30.2	22.7	18.9	22.7	Waterford -	17.9	31.8	25.9	37.8
Kilkenny -	47.2	18.9	14.2	37.8	Wexford -	36.1	49.7	31.6	31.6
Limerick -	28.1	25.3	22.5	28.1					

In the week ending Saturday, February 6, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 20.6), was equal to an average annual death-rate of 20.8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 26.6 per 1,000. In Glasgow the rate was 27.2. In Edinburgh it was 24.9.

The average annual death-rate represented by the deaths registered during the week in the twenty-three principal town districts of

Ireland was 36·3 per 1,000 of their aggregate population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·3 per 1,000, the rates varying from 0·0 in thirteen of the districts to 11·7 in Carrickfergus—the 5 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 197 deaths from all causes registered in Belfast are 5 from measles, 9 from whooping-cough, 1 from simple continued fever, 3 from enteric fever, and 1 from diarrhœa. The 38 deaths in Cork comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 262—140 boys and 122 girls; and the registered deaths to 296—145 males and 151 females.

The deaths, which are 89 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 44·1 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 42·8 per 1,000. During the first five weeks of the current year the death-rate averaged 40·1, and was 6·2 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 56, being 3 under the number for the preceding week, but 34 in excess of the average for the fifth week of the last ten years. The 56 deaths comprise 18 from measles, 1 from German measles, 4 from scarlet fever (scarlatina), 24 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 3 from diarrhœa.

The number of cases of measles admitted to hospital was 95, being 9 under the admissions for the preceding week: 108 patients were discharged, 8 died, and 235 remained under treatment on Saturday, being 21 under the number in hospital at the close of the previous week.

Thirty-three cases of scarlatina were admitted to hospital, being an increase of 14 as compared with the admissions in the preceding week: 22 cases were discharged and 131 remained under treatment on Saturday last, being 11 over the number in hospital at the close of the preceding week. This number is exclusive of 20 patients in the Beneavin Convalescent Home, Glasnevin.

The number of cases of enteric fever admitted to hospital was 7, against 13 in the preceding week. Four enteric fever patients were discharged and 39 remained under treatment on Saturday, being 3 over the number in hospital on that day week.

Nine cases of typhus were admitted to hospital, and 17 remained under treatment on Saturday, being 8 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered, was 75, being 11 below the number for the preceding week, but 22 above the average for the fifth week of the last ten years. The 75 deaths comprise 54 from bronchitis and 14 from pneumonia.

In the week ending Saturday, February 13, the mortality in thirty-three large English towns, including London (in which the rate was 18·6), was equal to an average annual death-rate of 19·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 28·8 per 1,000. In Glasgow the rate was 33·3, and in Edinburgh it was 24·7.

The average annual death-rate in the twenty-three principal town districts of Ireland was 35·9 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 5·0 per 1,000, the rates varying from 0·0 in fifteen of the districts to 14·0 in Armagh—the 7 deaths from all causes registered in that district comprising 2 from measles. Among the 211 deaths from all causes registered in Belfast are 9 from measles, 4 from scarlatina, 6 from whooping-cough, 1 from diphtheria, and 7 from enteric fever. The 54 deaths in Cork comprise 3 from measles and 1 from whooping-cough. The 10 deaths in Newry comprise 1 from whooping-cough and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 217—122 boys and 95 girls; and the registered deaths to 276—151 males and 125 females.

The deaths, which are 82 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 41·2 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 40·4 per 1,000. During the first six weeks of the current year the death-rate averaged 40·3, and was 7·3 over the mean rate in the corresponding period of the ten years 1887–1896.

The deaths from zymotic diseases amounted to 71, being 15 over the number for the preceding week, and 52 in excess of the average for the sixth week of the last ten years. They comprise one from small-pox—the only death from that disease registered since the

week ended May 23, 1896—26 from measles (being 8 over the number of deaths from that cause in the preceding week), 2 from scarlet fever, 2 from typhus, 6 from influenza and its complications, 25 from whooping-cough (against 24 in the previous week), 1 from enteric fever, and 1 from diarrhœa. Fifty-seven of the 71 deaths from zymotic diseases occurred among children under 5 years of age.

The hospital admissions included 2 cases of small-pox. These are the only cases of the disease admitted to hospital since the week ended June 6, 1896.

There were 112 cases of measles admitted to hospital, against 95 in the preceding week, and 104 in the week ended January 30. Ninety-eight measles patients were discharged, 7 died, and 242 remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week.

Forty-two cases of scarlatina were admitted to hospital, against 33 in the preceding week, and 19 in that ended January 30. Twenty-six patients were discharged, 2 died, and 145 remained under treatment on Saturday, being 14 over the number in hospital on that day week. There were, in addition, 21 convalescents under treatment at Beneavin, Glasnevin.

Seven cases of enteric fever were admitted to hospital: 6 patients were discharged, and 40 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The number of cases of typhus admitted to hospital was 7, being a decline of 2 as compared with the admissions in the preceding week. Two patients died, and 22 remained under treatment on Saturday, being 5 over the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had fallen from 86 for the week ended January 30 to 75 for the following week, rose to 80, or 31 over the average for the corresponding week of the last ten years. The 80 deaths comprise 53 from bronchitis and 23 from pneumonia.

In the week ending Saturday, February 20, the mortality in thirty-three large English towns, including London (in which the rate was 17·8), was equal to an average annual death-rate of 18·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25·5 per 1,000. In Glasgow the rate was 29·4, and in Edinburgh it was 19·9.

The average annual death-rate represented by the deaths regis-

tered in the twenty-three principal town districts of Ireland was 35·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 5·1 per 1,000, the rates varying from 0·0 in fourteen of the districts to 10·6 in the Dublin Registration District. Among the 165 deaths from all causes registered in Belfast are 1 from measles, 1 from typhus, 3 from whooping-cough, 4 from enteric fever, and 3 from diarrhœa. The 50 deaths in Cork comprise 4 from measles and 2 from whooping-cough. The 26 deaths in Londonderry comprise 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 220—115 boys and 105 girls; and the registered deaths to 291—144 males and 147 females.

The deaths, which are 80 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 43·4 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 42·2 per 1,000. During the first seven weeks of the current year the death-rate averaged 40·7, and was 7·9 over the mean rate in the corresponding period of the ten years 1887–1896.

Deaths from zymotic diseases, which had risen from 56 in week ended February 6 to 71 in the following week, further rose to 79, or 58 over the average for the corresponding week of the last ten years. They comprise 43 from measles (against 26 from that cause in the preceding week), 5 from scarlatina (scarlet fever), 2 from typhus, 3 from influenza and its complications, 16 from whooping-cough—being a decline of 9 as compared with the number from that disease in the preceding week—1 from diphtheria, 3 from enteric fever, and 2 from diarrhœa. Of the 79 deaths from zymotic diseases 59 were deaths of children under 5 years of age.

The cases of measles admitted to hospital amounted to 122, being 10 in excess of the admissions in the preceding week: 104 measles patients were discharged, 5 died, and 255 remained under treatment on Saturday, being 13 over the number in hospital on that day week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 19 in the week ended January 30 to 33 in the following week, and to 42 in the week ended February 13, fell to 18. Twenty-two patients were discharged, 3 died, and 138 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week. This number does not include 20 convalescents at Beneavin.

The number of cases of enteric fever admitted to hospital was 5, being 2 under the number admitted in each of the two weeks preceding. Six patients were discharged, 1 died, and 38 remained under treatment on Saturday, being 2 under the number in hospital on that day week.

The hospital admissions included, also, 2 cases of small-pox, but no cases of typhus were received. During the preceding week 2 cases of the former and 7 cases of the latter disease had been admitted. Four cases of small-pox and 14 cases of typhus remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 67, being 14 over the average for the corresponding week of the last ten years, but 13 under the number for the previous week. The 67 deaths comprise 44 from bronchitis, 16 from pneumonia, and 4 from croup.

In the week ending Saturday, February 27, the mortality in thirty-three large English towns, including London (in which the rate was 19.0), was equal to an average annual death-rate of 19.4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25.3 per 1,000. In Glasgow the rate was 28.6, and in Edinburgh it was 25.3.

The average annual death-rate in the twenty-three principal town districts of Ireland was 31.5 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 4.4 per 1,000, the rates varying from 0.0 in fifteen of the districts to 18.6 in Portadown—the 8 deaths from all causes registered in that district comprising 2 from measles and 1 from scarlatina. Among the 153 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 6 from enteric fever, and 2 from diarrhœa. The 44 deaths in Cork comprise 2 from measles, 1 from whooping-cough, and 1 from diarrhœa. Among the 20 deaths in Limerick are 2 from enteric fever. The 26 deaths in Londonderry comprise 1 from each of the following—viz., scarlatina, diphtheria, and diarrhœa. Of the 5 deaths in Newry 2 were from whooping-cough.

In the Dublin Registration District the registered births amounted to 170—105 boys and 65 girls; and the registered deaths to 252—121 males and 131 females.

The deaths, which are 46 over the average number for the corresponding week of the last ten years, represent an annual rate

of mortality of 37·6 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 37·0 per 1,000. During the first eight weeks of the current year the death-rate averaged 40·3, and was 7·8 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 65, being 47 over the average for the corresponding week of the last ten years, but 14 under the number for the previous week. The 65 deaths comprise 34 from measles—showing a decline of 9 as compared with the number from that disease in the preceding week—2 from scarlet fever (*scarlatina*), 5 from influenza and its complications, 12 from whooping-cough (being 4 under the number for the preceding week), 3 from diphtheria, 2 from enteric fever, and 2 from diarrhœa. Of the 65 deaths from zymotic diseases 49 were deaths of children under 5 years of age.

There were 123 cases of measles admitted to hospital, being 1 over the admissions in the preceding week and 11 over those in the week ended February 13. One hundred and twenty-six measles patients were discharged, 7 died, and 245 remained under treatment on Saturday, being 10 under the number in hospital at the close of the preceding week.

There has been a further decline in the number of cases of *scarlatina* admitted to hospital, the admissions being 11 only, or 7 under the number for the preceding week, and 31 under that for the week ended February 13. Twenty-three patients were discharged, 1 died, and 125 remained under treatment on Saturday, being 13 under the number in hospital at the close of the preceding week. This number does not include 22 convalescents under treatment at Beneavin, Glasnevin.

Six cases of enteric fever were admitted to hospital, against 5 in the preceding week and 7 in that ended February 13. One patient was discharged, 1 died, and 42 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had fallen from 80 in the week ended February 13 to 67 in the following week, further declined to 63, but this number is 8 in excess of the average for the corresponding week of the last ten years. The 63 deaths comprise 33 from bronchitis, 17 from pneumonia, and 2 from pleurisy.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of February, 1897.

Mean Height of Barometer, -	-	-	30·001 inches.
Maximal Height of Barometer (on 22nd, at 9 p.m.)	30·569	„	
Minimal Height of Barometer (on 1st, at 9 p.m.),	29·209	„	
Mean Dry-bulb Temperature, -	-	-	45·1°.
Mean Wet-bulb Temperature, -	-	-	43·5°.
Mean Dew-point Temperature, -	-	-	41·6°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·264	inch.	
Mean Humidity, -	-	-	88·3 per cent.
Highest Temperature in Shade (on 19th),	-	-	59·7°.
Lowest Temperature in Shade (on 1st),	-	-	35·0°.
Lowest Temperature on Grass (Radiation) (on 28th),	-	-	29·6°.
Mean Amount of Cloud, -	-	-	73·6 per cent.
Rainfall (on 16 days), -	-	-	1·395 inches.
Greatest Daily Rainfall (on 2nd), -	-	-	·269 inch.
General Directions of Wind, -	-	-	W., S.W., S.E.

Remarks.

Taken as a whole, this was one of the mildest Februaries on record in Dublin. There was scarcely any frost even on the ground, and the sky was often densely clouded. The first third of the month was gloomy and wet in Ireland, intensely cold in the North and North-east of Scotland, where the thermometer fell on the 4th to zero at Nairn and Lairg, and to -7° at Braemar. The minimum at Aberdeen at this time was 9° , whereas the thermometer rose at that place to 64° on the 22nd and to 61° on the 26th. Equatorial winds were prevalent during the greater part of the month.

In Dublin the mean temperature ($46\cdot0^{\circ}$) was $3\cdot2^{\circ}$ above the average ($42\cdot8^{\circ}$); the mean dry bulb readings at 9 a.m. and 9 p.m. were $45\cdot1^{\circ}$. In the thirty-two years ending with 1896, February was coldest in 1895 (M. T. = $34\cdot2^{\circ}$), and warmest in 1869 (M. T. = $46\cdot7^{\circ}$).

The mean height of the barometer was 30·001 inches, or 0·146 inch above the average value for February—namely, 29·855 inches. The mercury rose to 30·569 inches at 9 p.m. of the 22nd, having fallen to 29·209 inches at 9 p.m. of the 1st. The observed range of atmospheric pressure was, therefore, 1·360 inches.

The mean temperature deduced from daily readings of the dry

bulb thermometer at 9 a.m. and 9 p.m. was 45.1° , or 11.5° above the value for February, 1895. Using the formula, *Mean Temp.* = *Min.* + (*max.* - *min.* $\times .50$), the M. T. is 46.0° , compared with a twenty-five (1865-1889) years' average of 42.8° . On the 19th the thermometer in the screen rose to 59.7° —wind, S.W.; on the 1st the temperature fell to 35.0° —wind, E.S.E. The minimum on the grass was 29.6° , on the 28th.

The rainfall was 1.395 inches, distributed over 16 days. The average rainfall for February in the twenty-five years, 1865-89 inclusive, was 2.150 inches, and the average number of rainy days was 17.2. The rainfall, therefore, and also the rainy days, were below the average. In 1883 the rainfall in February was large—3.752 inches on 17 days; in 1879, also, 3.706 inches fell on 23 days. On the other hand, in 1891, only .042 inch was measured on but 2 days. The rainfall in 1891 was much the smallest recorded in February for very many years. The record is probably unparalleled in Dublin—.042 inch on 2 days. Neither hail, nor sleet, nor snow fell.

The atmosphere was foggy on 7 days—namely, the 3rd, 4th, 5th, 10th, 12th, 15th, and 17th. The amount of cloud—73.6 per cent.—was much above the average—66 per cent. High winds were noted on 7 days, and reached the force of a gale on the 18th, 20th, 24th, 25th, and 26th. A lunar halo was seen on the 16th.

The temperature reached or exceeded 50° in the screen on 14 days, and it never once fell below 32° , compared with as many as 18 nights in 1895, and only 1 night in 1896. The minima on the grass were 32° , or less, on only 4 nights, compared with every night in 1895, and 10 nights in 1896. The thermometer never failed to rise to or above 40° in the screen during the daytime.

The weather was exceedingly unsettled—cold, wet, gloomy, and foggy—during the greater part of the period ended Saturday, the 6th. But the most striking feature in the meteorology of the period was the occurrence of intense frost in the N. and N.E. of Scotland from the morning of the 1st to the evening of the 4th. This local area of cold was brought about by a combination of circumstances—namely, a country deeply covered with snow, a clear sky, and a tolerably calm atmosphere. The town of Nairn suffered most severely from the resulting chill—the minima in the screen there being 12° , 13° , 7° , 0° , 4° , and 26° respectively. This hyperborean cold had an extraordinary effect on the weather in England and Ireland, for it seemed to stop the Atlantic depressions in their passage north-eastwards—the result was gloom, fog, and downpours of rain or heavy falls of wet snow. The steepness of

the thermometric gradients over Western Europe was extreme on Tuesday, the 2nd, when a warm S.W. air-current blew across France with gale force. At 8 a.m. of that day the thermometer read 52° at Lorient and Jersey, 51° in Paris, 37° in London, but 16° at Nairn and 17° at Wick. In the course of the day it rose to 56° in Paris, but did not exceed 38° in London. At 8 a.m. of Wednesday the reading at Nairn was 10° , at Nice 56° , or a difference of 46° F. The maximum at Nice on this day was 70° . On Tuesday a trough of low atmospheric pressure stretched from the south of Ireland eastwards to the Netherlands, and on Friday a well-defined cyclonic system was found over the English Channel. These systems caused heavy rains in France, Ireland, and England. In Dublin the barometer ranged between 29.209 inches at 9 p.m. of Monday (wind, E.S.E.) and 29.695 inches at 9 p.m. of Wednesday (wind, S.E.). On Monday the screened thermometers fell to 35.0° , on Thursday they rose to 49.5° . The rainfall was .571 inch on six days, .269 inch being measured on Tuesday. The prevailing winds were easterly.

A very decided advance in temperature was observed during the week ended Saturday, the 13th, the weather of which was of the south-westerly type—open, cloudy and damp. Between Monday and Friday a large area of low atmospheric pressure travelled slowly north-eastwards from the N.W. of Scotland to the N. of Scandinavia. From Wednesday a shallower depression was found over the S. and S.W. of Ireland. The latter disturbance equalised pressure, and so caused a temporary fall of temperature on Wednesday. This was followed by easterly and south-easterly breezes; gloom and fog succeeding on Friday, when a sharp frost visited the Scottish stations, the screened thermometer falling to 29° at Ardrossan, 28° at Stornoway, 26° at Leith, 25° at Wick, and 24° at Nairn. At the beginning of the week intense cold still held in the Baltic and Gulf of Bothnia—at Haparanda the minimum on Sunday was -24° , on Monday it was -27° . The corresponding values at Hernösand were -18° and -17° . At 8 a.m. of Tuesday the thermometer at this latter station stood 38° higher than at 8 a.m. of Monday. In Dublin the mean height of the barometer was 30.032 inches, pressure ranging between 29.841 inches at 9 a.m. of Tuesday (wind, W.) and 30.163 inches at 9 a.m. of Wednesday (wind, calm). The range of pressure was therefore small. The mean temperature was 45.2° , the mean dry bulb reading at 9 a.m. and 9 p.m. being 44.8° . On Wednesday the screened thermometers fell to 36.0° ; on Saturday they rose to 53.0° . Rain fell on 4 days to the amount of .377 inch, .240 inch being

registered on Monday. The prevailing winds were westerly, but an easterly breeze blew from Wednesday evening to Friday at noon.

Weather of the south-westerly type—open, cloudy, and often damp—was in evidence throughout the week ended Saturday, the 20th, and temperature again showed a substantial advance, although a temporary chill occurred on the morning of Wednesday the 17th. At the beginning of the period very intense cold held over the North of Europe—at 8 a.m. of Sunday the thermometer read -17° F. at Haparanda on the Gulf of Bothnia; on Monday morning it marked -9° at Hernösand and -6° at Karlstad in Sweden. A change then took place, as a large and deep depression reached the N.W. of Norway from the westward, and a general thaw set in all over Scandinavia—the 8 a.m. temperatures at Karlstad for the rest of the week were 23° , 42° , 39° , 35° , and 35° respectively. The south-westerly current, which flowed over the British Islands at the periphery of the depression in the far north, brought with it unusual warmth, so that on Friday the thermometer rose almost to 60° in the screen in Dublin. It should also be mentioned that an anticyclone existed over France, Germany and the southern parts of the British Isles from Monday, so that at times the S.W. winds were very dry and somewhat searching in character. This was notably the case early on Thursday morning and again on Saturday. At 9 a.m. of Thursday the relative humidity was only 68 per cent. in Dublin. On Saturday evening a heavy fall of rain occurred and there was a fresh S.W. to W. gale. The mean atmospheric pressure was 30.215 inches, the barometer rising to 30.543 inches at 9 a.m. of Tuesday (wind, S.W.) and falling to 29.883 inches at 8 p.m. of Saturday (wind, W.S.W.). The mean temperature was 47.5° . The mean dry bulb temperature at 9 a.m. and 9 p.m. was 45.9° . On Wednesday the screened thermometers fell to 37.1° , on Friday they rose to 59.7° . The rainfall was .267 inch on three days, .211 inch being measured on Saturday. The prevailing winds were S.W. and W. Gales occurred on Thursday and Saturday.

Stormy, open, cloudy weather was prevalent throughout the week ended Saturday, the 27th; but except in the north and west of Ireland the rainfall was not heavy. The distribution of atmospheric pressure over northern and western Europe was eminently calculated to produce westerly gales. Thus, an area of high atmospheric pressure, near the centre of which the barometer stood at 30.7 inches or upwards, stretched from the Bay of Biscay eastwards across France, while a constant succession of depressions

swept north-eastwards across the Norwegian Sea and Norway. At the very beginning of the period a well-marked secondary depression moved rapidly over the British Isles towards E.S.E., the centre reaching Holland at 8 a.m. of Sunday. This disturbance caused strong S.W. to N.W. gales, which were however of short duration. In its rear the barometer rose quickly, so that by 8 a.m. of Monday it reached 30·76 inches at Brest and Lorient. On this day a warm wave swept over our Islands, the maximal thermometric reading being 64° at Aberdeen. On Wednesday morning the barometric gradient was very steep—pressure ranging from 30·71 inches in Paris to 29·05 inches at Bodö, in Norway. Twenty-four hours later a new and deep depression had advanced to the neighbourhood of the Hebrides, so that south-westerly gales again sprang up in Ireland, Scotland, and parts of England. Heavy rain was reported from Valentia (·60 inch), Belmullet (·85 inch), and Stornoway (·50 inch). On Friday afternoon the wind moderated and temperature gave way. Saturday was a beautiful, sunny, spring-like day. In Dublin the mean height of the barometer was 30·255 inches, pressure ranging between 30·569 inches at 9 p.m. of Monday (wind, W. by S.) and 29·765 inches at 7 15 a.m. of Thursday (wind, S.W.). The mean temperature was 49·7°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 48·8°. On Thursday the screened thermometers rose to 58·6°, on Saturday they fell to 37·8°. The rainfall was ·121 inch on two days, ·109 inch being registered on Wednesday.

Sunday, the 28th, was dull, threatening and showery in the daytime. In the evening the sky cleared and temperature fell.

In Dublin the rainfall up to February 28th, 1897, amounted to 4·089 inches on 33 days compared with only 1·588 inches on 24 days in 1896, 6·336 inches on 33 days in 1895, 4·741 inches on 39 days in 1894, 4·908 inches on 41 days in 1893, 3·817 inches on 39 days in 1892, ·714 inch on 16 days in 1891, and a twenty-five years' (1865–1889) average of 4·350 inches on 34·5 days.

At Knockdolian, Greystones, Co. Wicklow, 1·530 inches of rain fell in February on 17 days. The heaviest fall in 24 hours was ·190 inch on the 3rd. The total fall to February 28th inclusive was 5·190 inches on 37 days, compared with only 1·940 inches on but 17 days in the corresponding period of 1896.

The rainfall in February at Cloneevin, Killiney, Co. Dublin, amounted to 1·23 inches on 18 days. The average rainfall for February during 12 years (1885–96) at this station is 1·461 inches on 12·5 days. The greatest rainfall in 24 hours was ·18 inch on the 8th. Since January 1, the rainfall was 4·31 inches

on 38 days, compared with 1·64 inches on 19 days in the same period in 1896.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell on 15 days in February, the total measurement being 1·718 inches. On the 4th, ·281 inch was registered. At this climatological station there was no frost in the screen during the month, the minimum being 33·4° on the 1st. The maximal temperature was 56·4° on the 25th. On 16 days the thermometer rose above 50° in the screen. Since January 1 the rainfall has been 5·59 inches on 34 days.

AUGUST IN THE UNITED STATES.

IN Chicago there were 148 deaths from sunstroke during the week ended August 15. The following shows the mortality of four Eastern cities:—New York, heated term began August 4; total deaths 2,429; maximum temperature August 9, 98°; previous record July 24–30, 1892, total deaths 1,615, mean temperature 83°, maximum temperature 97°. Philadelphia, heated term began August 2; total deaths 1,328; mean temperature 82·7°; maximum, August 11, 98°; previous record June 30 to July 13, total deaths 1,649, mean temperature 86°. Washington, heated term began August 1; total deaths 39; mean temperature 81°; maximum temperature August 6, 98°; previous record July 1 to August 3, total deaths 66, mean temperature 84·9°, maximum 97. Baltimore, heated term began August 4; total deaths 344; mean temperature 84·2°; maximum 98°.

The deaths from sunstroke in Chicago amounted to 165. It is estimated that more than 800 horses fell victims to the heat.—*Jour. Am. Med. Assoc.*

SUICIDES.

THE *Gazette Médicale de Paris* quotes the following figures from *Médecine Moderne*. M. Pawlowski states that not less than 25,000 suicides occur annually in Europe. In France, the number of suicides has increased one-third in the second half of the century up to 1880. Since 1880 they have increased still more; in 1895 there were 8,226. Women are well represented in the lists; and in 1894, 80 children committed suicide. England produces the greatest number of female suicides. Scandinavia and Hungary rank next. In France in a million of adult females there are 80 suicides of unmarried girls, and 80 of wives. The number of suicides between the ages of 50 and 60 is double that of the number between 40 and 50.

PERISCOPE.

GLANDULAR FEVER IN CHILDREN—"FEBRILE POLYADENITIS."

Writing of the above as "Drüsenfieber," Pfeiffer, in 1889, pointed out to the profession its possible existence as a distinct and separate disease. Since then, Filatow, Hesse, Starck, Mousons, Cornby, and Park West have from time to time added to the literature of the subject; and lately Dawson Williams (*The Lancet*, Jan. 16th, 1897) has made a lucid and valuable contribution on it.

Symptoms.—The onset of the disease is usually sudden, and may be ushered in by convulsions or rigors. It is characterised by a rise of temperature to 101°–103° F., and by enlargement of the cervical glands at the angle of the jaw and beneath the sterno-mastoid muscles. The glands of the left side are said to be affected before those of the right. They are tender and painful to manipulation, and give rise to stiffness of the neck and marked discomfort on movement. The enlargement commences on or about the third or fourth day of the illness, continues for from three to six days, when resolution commences, and is usually completed in from a fortnight to three weeks. Suppuration did not occur in any of Dawson Williams' cases. There are, in addition to the foregoing symptoms, signs of derangement of the digestive organs, such as foul tongue, anorexia, nausea, sometimes vomiting, constipation of a relapsing character, though in milder cases diarrhœa may be present. Pain in the abdomen is a prominent symptom, and examination usually reveals enlargement of the liver, spleen, the mesenteric, and occasionally the inguinal glands. Examination of the fauces and pharynx revealed undue redness in some cases, though there was "nothing like definite pharyngitis or tonsillitis." There may be difficulty of swallowing owing to the enlarged and painful cervical glands. No eruption has been hitherto described. Acute nephritis may occur in some cases. The disease is mild, and is seldom directly fatal in itself, though complications may prove so. Convalescence is established by the middle of the third week, is very prolonged, and is characterised by marked anæmia, debility, and profound systemic depression. The disease is infectious, and runs through the younger members of a household as a limited epidemic. *Treatment.*—Dr. Dawson Williams makes the following remarks:—"Treatment does not, so far as I have observed, or so far as can be gathered from the literature, exercise any influence over the

course or duration of the malady. A cold compress to the neck or, in the more severe cases, belladonna fomentations, relieve the local symptoms, but do not prevent the onset of adenitis on the opposite side. The bowels respond readily to laxatives, but the constipation soon returns. Purgatives, such as calomel, do not produce any more permanent effect, and Dr. Park West states that in some of the cases in which resort was had to this practice it seemed to be responsible for greater depression and a more prolonged convalescence."—*Treatment*, March, 1897.

STATISTICS OF LACTATION.

DR. WIEDEN (*Centralbl. f. Gynæk.*) has collected interesting statistics at the Freiburg Maternity. Out of five hundred and twenty-five in child-bed, only one-half could suckle thoroughly during the first two weeks; ninety-nine secreted no milk; forty-nine had imperfect nipples; forty-six had fissured nipples; and forty-four had insufficient secretion of milk. Only thirty-three suckled without unfavourable complications. The development of the nipple seemed to bear a direct relation to the value of the breast as a secretory organ.—*Medical Standard*.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Filmogen.

MESSRS. THOMAS CHRISTY & Co., 25 Lime-street, London, E.C., have recently brought under our notice a new medium for applying to the skin such drugs and remedies as are used in dermatology. This medium is supplied under the name of Filmogen (Dr. Schiff) or Liquor Adhæsivus. When it is painted over the skin, it immediately forms a thin, non-sticky, and flexible film which adheres firmly and is unaffected by mechanical friction or by washing with water. Filmogen consists of a solution of nitrated cellulose in acetone, to which is added a very slight quantity of oil to render the film flexible after evaporation of the acetone. Most of the remedies used in dermatological practice are soluble in filmogen to a very considerable extent, such as salicylic acid, resorcin, iodoform, pyrogallol, sublimate of mercury, chrysarobin, cocaïn, ichthyol, and carbolic acid, whilst others, such as sulphur, acetate of lead, oxide of zinc, lead iodide, &c., are easily suspended in this medium. The evaporation of the acetone produces merely a cooling sensation. On open wounds, the application smarts for a second or two, but otherwise is perfectly harmless and painless. The above-

mentioned facts point to the advantages of filmogen over other similar media. The various varnishes sometimes used for applying remedies will not easily absorb them, and the application of varnish often causes considerable irritation and soreness. They are also frequently sticky and unpleasant to use. Collodion and traumaticin are not sufficiently resistant, the film becoming brittle or peeling off. Filmogen remains flexible and adheres firmly to the skin or wound, forming a protective film or covering to the diseased parts. It permits of the full action of the drug incorporated with it. Filmogen is not soluble in water. After painting the parts they can be washed, the film preventing their coming in actual contact with the water. Filmogen is easily removed by means of alcohol. The use of filmogen for antiseptic surgical dressings has been suggested in view of the solubility therein of iodoform, sublimate of mercury, carbolic acid, &c.

Dr. E. Schiff recently read a paper on the subject of filmogen before the Third International Congress of Dermatology in London.

New Palatinoids and Bipalatinoids.

MESSRS. OPPENHEIMER, SON & CO., Limited, 14 Worship-street, London, E.C., have submitted for our inspection specimens of some new palatinoids and bipalatinoids which they have designed:—*Thyrocol Palatinoids.*—Thyrocol is the active colloid matter of the sheep's thyroid gland, isolated according to the process developed by Dr. Hutchison, of Edinburgh, and exclusively prepared by Messrs. Oppenheimer in accordance with his instructions. It is claimed for thyrocol that it is more uniform in effect and much less prone to decomposition than the ordinary preparations of the thyroid gland. The dose also is smaller— $\frac{1}{2}$ gr. of thyrocol is equivalent to 5 grs. of sheep's thyroid gland. The palatinoids of thyrocol each contain $\frac{1}{2}$ gr. *Amyl Nitrite Palatinoids.*—Each palatinoid contains 3 minims in a jujube cachet, from which the contents may be easily squeezed upon a handkerchief for inhalation. They prevent any risk of injuring the hand, as sometimes happens when glass capsules are employed. *Creasote with Compound Hypophosphites Bipalatinoids.*—This formula was suggested by a leading physician in the treatment of diseases of the respiratory organs. The bipalatinoid is composed of a soluble glycerine jujube cachet divided in the centre by a septum of the same material. In one compartment is contained the creasote specially purified, and free from irritative cresols, and in the other compartment the compound syrup of hypophosphites.

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Medical Department of the Navy.
ADMIRALTY.

NORTHUMBERLAND-AVENUE, W.C.

19th March, 1897.

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Fourteen Commissions, as Surgeon, will be offered for Competition.

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The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy; HENCE THE PREPARATION IS OF GREAT VALUE IN THE TREATMENT OF MENTAL AND NERVOUS AFFECTIONS. From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.—The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer imitations of it for sale. Mr. Fellows, who has examined samples of several of these, finds that no two of them are identical, and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, in the property of retaining the strychnine in solution, and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write "Syr. Hypophos. FELLOWS."

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# Hunyadi János

"THE PROTOTYPE OF ALL BITTER WATERS."—THE LANCET.

"SPEEDY, SURE, AND GENTLE."—BRITISH MEDICAL JOURNAL, Aug. 30th, 1884.

"SPEEDY, SURE, AND GENTLE."—BRITISH MEDICAL JOURNAL, Aug. 23rd, 1890.

"CITO, TUTO, ET JUCUNDE."—PRACTITIONER, May, 1896.

## HIGH COURT OF JUSTICE, CHANCERY DIVISION,

March 4th, 1897.

SAXLEHNER

v.

THE APPOLLINARIS COMPANY, Ltd.

Perpetual Injunction granted to restrain the Defendants, their officers, servants, and Agents, from selling or offering or exposing or advertising for sale in the United Kingdom any Hungarian Bitter Water, not being HUNYADI JANOS WATER, derived from the Plaintiff's Spring near Budapest, in the Kingdom of Hungary, under or with or by means of any name or description of which the name "HUNYADI" forms part, without clearly distinguishing the same from the water derived from the said Spring.

Order for delivery up or destruction of all Labels and other Documents, and also Capsules, in the possession or power of the Defendants, or under their control, which exhibit the name "HUNYADI" in connection with Hungarian Bitter Water without clearly distinguishing the same from water derived from the said Spring.

Order for an Account of Profits made by the Defendants since the 26th March, 1896, by means of the sale in the United Kingdom of Hungarian Bitter Water under a name or description of which the name "HUNYADI" forms part without clearly distinguishing the same from water derived from Plaintiff's Spring.

Order made for payment of the Costs of Action occasioned by improper use of the word "HUNYADI."

PROTECTED by LEGAL DECISION in HUNGARY, the COUNTRY of ORIGIN.

PROTECTED by LEGAL DECISION in ENGLAND.

PROCEEDINGS WILL BE TAKEN AGAINST ALL INFRINGERS.

**No other Water may be sold as "Hunyadi."**

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The most approved remedy in Dyspepsia, Anaemia, Intestinal and Wasting Diseases, Cholera Infantum, Vomiting in Pregnancy.

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LACTOPEPTINE TABLETS have the same formula as LACTOPEPTINE POWDER; and Lactopeptine Powder has been a favoured prescription of the Medical Profession for twenty years.

LACTOPEPTINE TABLETS are sold at the same price as LACTOPEPTINE IN POWDER (which will still be supplied as usual). There are five grains to a tablet, consequently the dose is easily regulated

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Author of "A Manual of Bacteriology," "Researches on Micro-Organisms,"  
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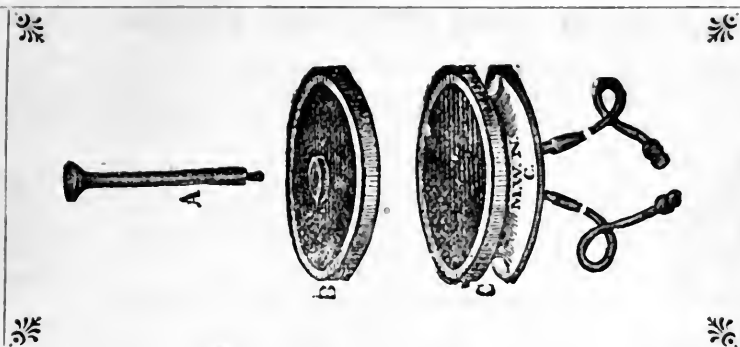
LONDON, March 17<sup>th</sup> 1896.



I hereby certify that I have examined Ross's "Royal Belfast Ginger Ale," and find that it is a genuine preparation, and contains nothing that is injurious. It is, in fact, a salutary, palatable and invigorating beverage - being made of materials of absolute purity. It possesses a flavour and bouquet which render it quite unique. I can conscientiously state that Ross's "Royal Belfast Ginger Ale" is a wholesome delicious drink, possessing sustaining and invigorating qualities. It is the finest Ginger Ale I have ever examined

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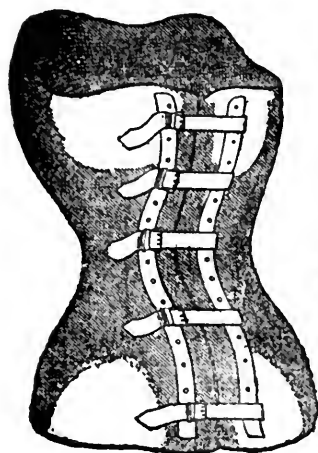
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## Instructions for Measurement, &c.

### **JACKET** (*in cases of slight deformity*).

Circumference at axilla.

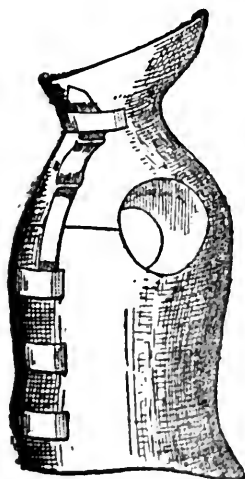
„ waist.

„ hips.

Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given ; in lateral cases a description of the case.

In all cases it should be stated if for male or female.



### **CERVICAL JACKET.**

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.



### **CLUB FOOT.**

Circumference below knee.

„ ankle.

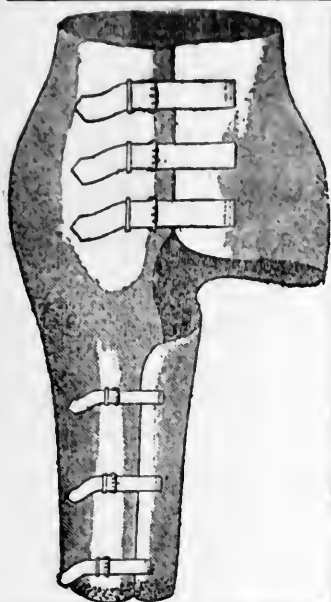
„ heel and instep.

Length from below knee to ground.

„ of foot.

Sole Agents for Dublin—**FANNIN & CO., Limited**,  
Manufacturers of Surgical Instruments & Appliances, Medical Booksellers & Publishers,  
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# Cocking's Adaptable Poroplastic Jackets and Splints.



Instructions for Measurement, &c.

## HIP SPLINT.

Circumference at waist.

" hips.

" thigh, top of

" above knee.

Length from waist to groin.

State if for right or left side.



## LEG SPLINT.

Circumference at top of thigh.

" above knee.

" at knee.

" below knee.

" calf.

" ankle.

Length from groin to centre of knee.

" centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

*Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus, Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.*

*These Splints can be fitted perfectly to the Patient if softened either by hot water or in a Heater made for the purpose. When mounted with webbing, hot water will do; if with leather, a Heater should be used. The material becomes quite hard again in two or three minutes.*

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To tell physicians who have prescribed it why this is so, is unnecessary—to those who have never given it a test, we shall be pleased to deliver a sample free.

FORMULA: 44% of the finest Norwegian Cod Liver Oil; 16% of best chemically pure Glycerine; 6 grains of Hypophosphites of Lime; and 3 grains of Hypophosphites of Soda to each fluid ounce.

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# SET OF TROCARS AND CANNULÆ, FOR PERFORMING Paracentesis Thoracis by Dr. Henry FitzGibbon's Improved Method.

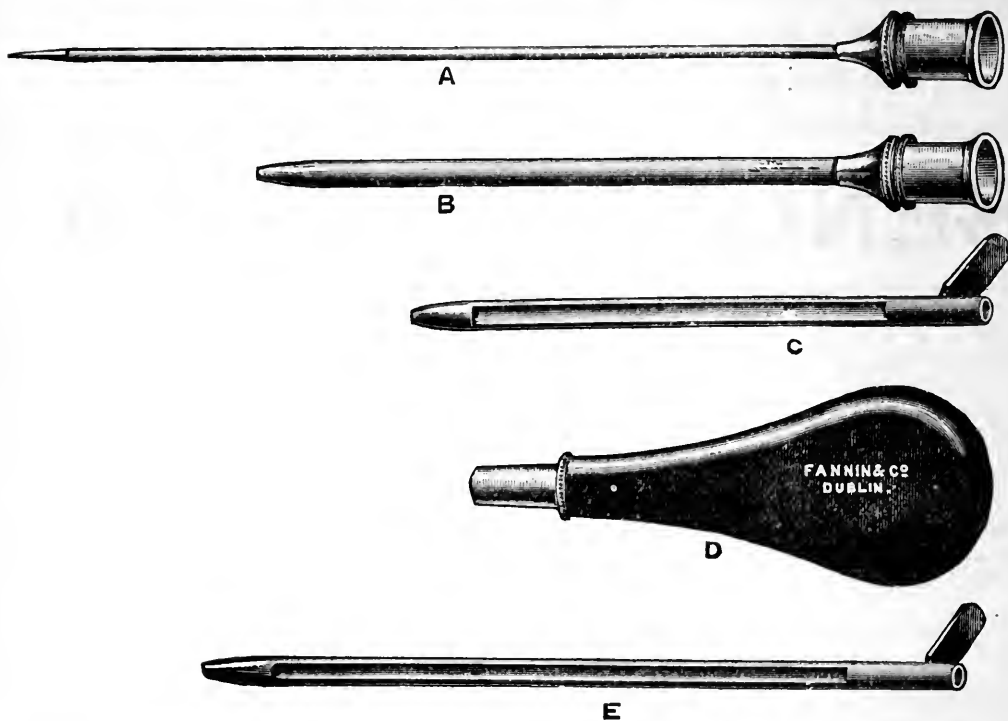


FIG. A represents an ordinary Aspirator Trocar. FIG. B, the Aspirator Cannula belonging to it. FIG. C, Cannula, with Director Groove made to fit accurately over A and B together.

FIG. D, The Handle. FIG. E, Director Cannula, fitting the Trocar A only.

DR. FITZGIBBON writes:—"The difficulty which occasionally arises in deciding with certainty whether a pleuritic effusion has resolved itself into an empyema or not often places the surgeon in the position of having to withdraw an Aspirator Cannula in order to open the pleural cavity freely for drainage and irrigation. Once the Cannula is withdrawn it is not always easy to get a director to follow the same track into the pleural cavity, as the relative positions of the skin, fascia, and pleura are apt to be altered by the escape of the fluid and by a change in the position of the patient."

In order to obviate this difficulty, Dr. H. FitzGibbon has designed the instrument represented in the accompanying woodcuts, and he has found it to facilitate the introduction of the drainage tubes into the thorax very much, and to enable the operation to be performed much more rapidly than is possible without its aid.

The Trocar A being put into the Cannula B, the Director Cannula C is passed over both, and the handle put in situ.

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Figure E is a Director Cannula which Dr. H. FitzGibbon uses in cases where there is no doubt of the existence of an empyema, and in which a free opening is to be made without exploration.

Dr. H. FitzGibbon says that Messrs. Fannin & Co. have made several of these instruments very neatly for him, and it is essential that the Director Cannula be made to fit accurately, and gently tapered at the point to prevent it from pushing the costal pleura before it. When skilfully made he has found the instrument a most valuable assistance in opening the thorax for drainage and irrigation.—Extract from the *British Medical Journal*, June 6th, 1896.

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**HIGHEST AWARD**, Medical & Sanitary Exhibition, London, 1882.

**First Order of Merit and Medal**, Melbourne, 1888.

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"We know of no stronger or more favourably constituted Natural Aperient Water."

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